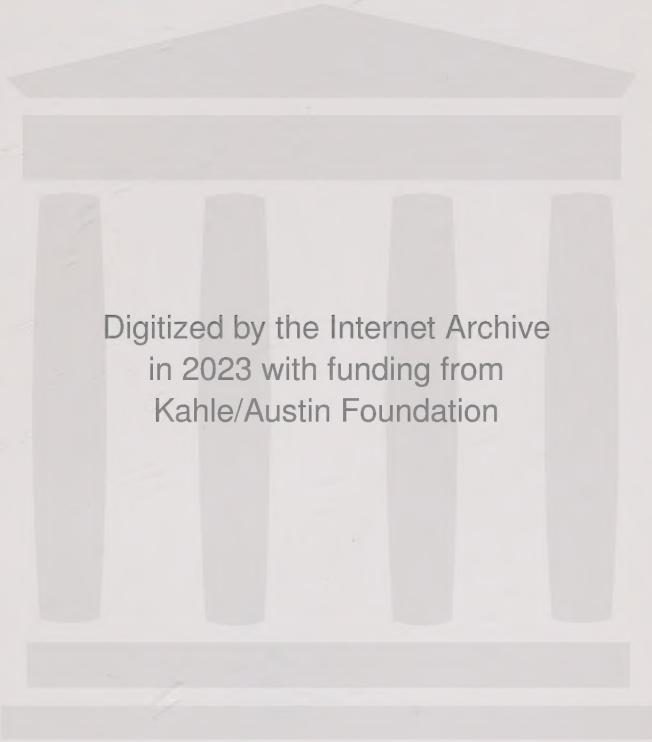


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BUSINESS ORGANIZATION AND MANAGEMENT

BY

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PREFACE

THE application of scientific management and of the scientific method to business in recent years has emphasized the extent to which one fundamental body of principles and methods of action underlies the successful conduct of business, and, indeed, in a broader sense, of all human activities.

Individual businesses of various sorts meet on another common ground, that of similarity of procedure. Problems of finance, of selling, and of production occur in some form in practically every business, and there is an established procedure or technique which is largely common to all. The principles which underlie purchasing, production control, or employment methods apply with little variation in all businesses.

This book deals with business primarily from the standpoint of procedure rather than of organization theory. It is my belief that an adequate knowledge of business practice and a clear idea of the results to be secured should precede the study of organization theory, of such questions, for example, as the classification of duties, the representation of interests, or planning. Therefore, while I have attempted to indicate to a degree the structure of organization theory which underlies the practice described, and have also indicated some of the relations of business to society as a whole, the development of these points has been incidental to a description of business, to an outline of the typical activities of the various departments, their relation to each other and to the business as a whole.

It is a weakness of the training of many men in business that, while they are adequately and even extensively informed in their own fields, their knowledge of the activities of other departments and of the relation of these activities to their own work is of the vaguest sort. Even in the case of the directing head of a business there are sometimes gaps

in information, there is a tendency, often unconscious, to pass lightly over certain unfamiliar fields. It is hoped that this book may be of assistance in discovering and helping to fill such gaps in information, and in pointing the way to further study where it is needed.

In teaching students in schools of commerce I believe there is also an advantage in preceding the more specialized courses by an introductory course in which the student has time to absorb some of the concepts he will later study more intensively, and to develop a perspective of the business as a whole before attacking its problems in detail. Such an introductory course may be made especially useful if it is supplemented by practical illustrative problems, by visits to operating businesses, and by reports.

Specific acknowledgment of sources is, of course, difficult in a book which has of need drawn on so many sources of information. Acknowledgment has been given as far as possible in footnotes. The A. W. Shaw Company has courteously placed at my disposal a number of illustrations from *System*, which help to make clear various points in the text. It is a special pleasure to express my gratitude to the men who read and offered their suggestions for improvement of parts of the book in its formative stages. Mr. Hurd Comstock, of the City National Bank of Evanston; Mr. John Lasier, of Critchell, Miller, Whitney and Barbour; and my colleagues, Fred E. Clark, David Himmelblau, Eric L. Kohler, A. W. T. Ogilvie, Horace Secrist, and John C. Teevan have done much to improve the book and insure its accuracy. To Mr. Edward M. Skinner, of Wilson Bros., I am indebted for a number of illustrations acknowledged in the text, and, like many other business men in the Middle West, for the inspiration of a vigorous and ripe philosophy of management and of life.

H. P. DUTTON

Chicago, Illinois, September 1, 1925.

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**BUSINESS ORGANIZATION
AND MANAGEMENT**

I

BUSINESS AND THE SOCIAL STRUCTURE

Management an art. The evolution of business. The growth of law. The sacredness of contracts. Proposals for the organization of production. The cost of competition. Consumer's cooperatives. Fields of economic activity. A classification of economic activities. Non-profit enterprises. The business man and ethics.

IF we take the work of the merchant, the banker, the professional man, the manufacturer, the printer, or the conduct of any other enterprise, and compare these various undertakings, the first impression will be that of difference. The work of the banker appears to have little in common with that of the farmer or the manufacturer, and the shoe manufacturer appears to be engaged in a task entirely different from that of the maker of machinery. And in the technical methods of doing the work, of treating the leather or the steel, we would find in each trade a special technique which has little interest outside that trade. But if we compare these businesses further, we find that there is a technique of management, organization, and buying and selling, that is common to all. A man who has once mastered the business of being a business man, who has learned the fundamentals of organization, of financial management, of accounting, of working with and commanding men, of buying and selling, can, therefore, usually quickly master and succeed in a new business; for he can usually acquire, in a comparatively short time, enough knowledge of the special technique to enable him to make general decisions intelligently; and he has learned, as an executive and organizer, how to supplement his own information by that of specialists who may be relied upon to correct his own errors in judgment and to accomplish that actual performance for which his own training is insufficient. The task of the business

man and executive is that of organizing and directing the productive efforts of other men so that these are employed to a maximum advantage. It is the purpose of this book to undertake a description, as systematic as may be, of the various departments and activities such as finance, buying and selling, credit management, and production control, which are met in some form in all businesses, to show these activities in relationship to each other, and to visualize as clearly as possible the work of management as an ensemble and correlation of the various factors of finance, selling, and production.

THE EVOLUTION OF BUSINESS

Before taking up for separate consideration the various problems of selling and advertising, of personnel management and accounting, and so on, it will be well if we may obtain a more comprehensive perspective of the business as a whole, of its relation to other human activities, and of its own internal organization as a social economic unit. The world is passing through a period of changing social conditions, of questioning of institutions, in which it is no longer possible to take even the most time-honored of social institutions totally for granted.

The change which a century has brought in business is tremendous. A hundred years ago the world was only just emerged from the era of hand tools. The steam-engine was but a feeble instrument in comparison with its powers today. Electricity, with all its marvelous developments for power, communication, electro-chemical processes, was still a scientific toy. The United States was, in the main, a vast, undeveloped wilderness, lying fallow and calling with a mighty urge for ever more men to develop it.

Interesting glimpses of those pioneer days are given in an autobiography of Henry Post, which lies before the writer, set down in crabbed script in an old copy-book. Henry Post emigrated from Vermont to Michigan in 1831, taking

with him his oldest son and about a thousand-weight of bedding and tools in an ox-drawn wagon. He homesteaded a farm, built a log cabin with built-in bedstead and other crude furniture, and next year sent back to Vermont for his wife and other children. The account is full of the hardships of an early and primitive community. Roads were very bad, and the community had to be almost self-supporting, its few members turning their hands to many occupations. Post worked in the winter as a carpenter, doctored his own cattle, cured his own meat, raised the grain which the neighborhood miller ground on shares for the winter's flour. He preached occasionally in neighborhood churches, peddled groceries and tinware in a bad farming year, served a term as postmaster. When a road was opened past his house, he hung out a sign: "Temperance Inn—H. Post." His wife wove woolen coverlets of fleece from their own sheep, and made candles of tallow from the same source. Money was scarce and barter usual. Hay was paid for by "a day's work in harvest," a neighbor, Parmenter, was given "two barrels of salt for which he was to split rails." Outside of a few organizations in the large cities, the family was still the economic producing unit. When an undertaking was too large for the resources of a single family, a "bee" was organized, the favor being returned in rough rotation. Thus the neighbors were invited in for a "bee" to clear a piece of Post's land, and were repaid by similar services in their harvesting, butchering, and barn-raising.

Such accounts of early American life emphasize the tremendously increased complexity of the modern economic system. Perhaps the most spectacular difference is in the resources now at the command of society, the powerful servants of machinery, which were unknown in that day. With these more powerful tools has come another and even more fundamental change in economic life, the increase of the size of the productive unit and the specialization of the economic function of the individual. In the



System, August, 1922, p. 147.

Figure 1: A shoe factory of 1568. An opening fronting the street provided for the marketing of the product.

small, isolated community, the few individuals must spread their forces over a wide range of necessary activities. Even trade specialization cannot be complete: the farmer must take turns at being a carpenter and a mason and a doctor. With a more numerous population, trade specialization is carried to a finer and finer degree. As railroad, mail, and telephone cheapen and facilitate communication, and as more massive equipment and machinery are employed with

advantage, larger and larger groups of men and finally even whole communities can afford to specialize in the doing of a single thing, and a second degree of specialization takes place, the trade breaking down into single operations, separating into a thousand special and detailed duties.

This change has brought its own drawbacks with it. It has clamped many individuals in a narrow and rigid mold of circumscribed routine, which allows small play for spontaneous expression of the vital forces and emotional impulses of life. It has brought people into an intimate contact and mutual dependence which leaves less elbow-room for individual freedom. Until the race shall have adjusted its instincts to the new, more closely social life, the development of the modern economic order has unquestionably diminished the joy of living, the sense of zest and grip on realities which, for all his hardships, was the compensation of the pioneer. But the new order is probably here to stay, for it has multiplied manyfold the productive capacity of the race, it has enabled a hundred millions to live with a comfort and adequacy undreamed of by the scanty population which struggled with nature a century ago.

With specialization and the growing dependence on others for food, clothing—all the necessities of life—the function of commerce and exchange has acquired greater importance; the business man is no longer the mean and incidental figure of an earlier and self-sufficient day, but has taken his place among the captains of the people. The increased complexity and the more closely bound relationships have made necessary a greater and more inclusive degree of government. Organization, collective action, collective regulation, become more important. Only in an orderly and organized society can productive activities be carried on.

THE GROWTH OF LAW

The first beginnings of organized society trace back to remote prehistoric times, and the fundamental forms have

not changed greatly. In common with many of the animals, man has found the gregarious or tribal form more effective for defense and for aggression than are the unaided efforts of the individual, and he still lives in tribal groups.

But tribal life would be impossible without many concessions on the part of the individual, without a stable basis of agreed relations, rights, duties, and prohibitions. What these relationships shall be varies from group to group and from age to age. It represents generally the effective voice of the group; the group decision as to what is right, what is necessary for the welfare of all. This group decision finds expression and becomes established as custom. It is enforced by various means. In primitive societies each man protects his own rights, as in the old Hebraic law, "an eye for an eye, a tooth for a tooth." Gradually the enforcement of penalties is taken over by the priesthood or the chieftain, and so evolves government in which tribal opinion is enforced by chosen representatives of the tribe. Government serves also for the organization of defense against other tribes; it may assume other functions such as that of the direction of collective, productive undertakings.

Public opinion crystallizes into laws, and in the English common law we have a great accumulation of decisions representing the traditional ideas of the Anglo Saxon race as to what constitute the rights and duties of its members. Besides this body of common law new statutory laws are enacted from time to time by our legislatures. The courts exist to harmonize and organize all this great body of law, and to apply its principles to specific cases which citizens may bring before it. Thus it is public opinion, expressed through the courts and the government, which ultimately determines the conditions under which business may be done, which decides that any particular activity is in harmony with, or is contrary to, the general welfare. And while immemorial usage has given to certain rights and principles a weight not lightly to be disregarded, it cannot be strictly said that there is such a thing as an inalienable right. The changing

concept of the property right, its invasions by taxation, by the police power of the state, illustrate the subordination of private rights to public welfare.

Although it therefore appears that no right is an utterly unchangeable thing, the property right is among the most fundamental of human rights and is of especial interest as the basis of exchange and of our modern economic system. Property is something proper, or exclusive, to the individual, something which he has the sole right to enjoy or to permit others to participate in. We still see traces in English civilization of the days when much present-day property was still common, open to the use of all, as in the case of the "commons" which any one had the right to use for pasturing his cattle, to gather firewood, or to use in other specified ways. In our own country, horses were at one time a free goods in the West, so common that they could be had for capture, and wild game may still be captured in the main by any one who will take the trouble to hunt it.

One of the implications of the property right is the right to exchange one right or property for another considered more desirable, the right to contract. A *contract* is an agreement among parties, each of whom, for a consideration, undertakes to do or refrain from doing some act as desired by the other parties. There are certain limitations on the right to contract. Certain property rights, such as a non-negotiable note, a partnership interest, the right to patent an invention, are not directly transferable. Certain other types of contract, against law, morals, or the public interest, are forbidden by law, and certain individuals, as minors, or those not mentally responsible, are not competent to enter into a binding contract. But, in general, the property right is recognized as transferable.

THE SACREDNESS OF CONTRACTS

Many, perhaps in our modern society most, contracts are not of a nature to be immediately executed but involve, on

the part of one or all parties, future performance or consideration. Modern business would be impossible were there not adequate assurance that such agreements would be carried out. The protection of the sacredness of the contract is therefore a matter of the greatest importance to the courts and to society. It is impossible by law to protect the individual from the consequences of his own folly, or to foresee every possible evasion; but law and public opinion impose more and more stringent requirements of good faith in the contractual relation. It is only a few years ago that the pure food laws were passed, and the laws against fraudulent misbranding of fabrics, widths, and measures are still more recent. Honesty is not only the best policy, it is the only policy on which a society can operate without a complete breakdown of confidence and credit, and of the whole economic structure. There will, of course, be dishonest, predatory, and parasitic business men for a long time to come, for the reason that public opinion is a cumbersome instrument, which moves slowly to adjust itself to new conditions and to remedy new abuses. But in the long run a business which does not serve cannot endure.

PROPOSALS FOR THE ORGANIZATION OF PRODUCTION

Private enterprise is the method on which society has traditionally relied for the supplying of its wants. Individuals foresee needs, make or secure goods to satisfy the need, and take their pay by adding a profit to the price of the goods. In thus foreseeing and supplying needs, a risk must be taken, since the demand may not be as great as estimated, or losses by fire, catastrophe, or change in demand may occur while the business man has the goods in his hands. Part of the profit is a compensation for the taking of such risks.

But while production is predominantly left to the initiative of an individual or private group, this system is not the only possible plan open to society. In these days of change

and challenge, it is of interest to be cognizant of the evils as well as the advantages of the present order and to be acquainted with some of the alternatives.

In *communism* we find a totally divergent plan for supplying the needs of society. The communist proposes that each shall contribute his services direct to the common fund and draw from this fund according to his needs. In certain primitive tribal organizations we find communism carried out to a very considerable degree, all able-bodied males taking part in the hunt, whose spoils are used for the common need of all. And in Russia the world has witnessed a colossal experiment in communism, the right of private property having been abolished and the direction of production and the rationing of the common store being done by the state. In Russia the plan does not seem to have been fully successful, the "New Economic Policy" representing a partial return, at least, to the system of private initiative. Communism possesses the grave, and in the present stage of racial evolution probably the insuperable, weakness of removing the spur of individual initiative. The ambitious, the progressive one receives no greater reward for his efforts than the laziest drone. Why, then, should he work, or, being compelled to work, do more than a bare necessary minimum?

Socialism, in the sense of government ownership of the means of production, is another proposal. This system would retain private property and would permit of rewarding the individual according to his performance. But the state would be the employer, would own, and hire its citizens to operate, the banks, the power plants, the railroads, the mills, the farms, the stores, all major instruments of production—selling the product to these same citizens. Evidently it would be feasible to include in this state enterprise as little or as much as proved desirable. Thus the state might own the great natural monopolies, transportation, telephones, power, coal, and so on, leaving the rest of the mechanism of production in private hands. Limited social-

ism is, in truth, an accepted fact today. The making and maintenance of highways and harbors; the carrying of the mails; the parcels-post or federal express service; the education of children; the scientific services of the agricultural department; of the bureau of standards, and of numerous similar services; the coinage of money and issuance of notes; the Panama Canal; the United States Shipping Board; the irrigation of arid agricultural districts; the national, state, and municipal park systems; municipal water-works, health services, public libraries, are but a few of numerous governmental activities, productive rather than regulatory in nature, and once commonly left to private initiative. How much more of the business of production should and will be taken over by the state?

The great difficulties with state-operated industries appear to be two. The first is the danger of excessive centralization. Even the large private corporation finds it difficult to keep in touch with all the details of its wide-flung operations, or to supervise and stimulate adequately its host of employees. Centralization tends also to harden practice into custom, to discourage new ideas, as a great forest tree starves out the saplings under it. The second danger is the danger of political control. It would be absurd to think of the German-American or the Italian-American vote controlling the decisions of the United States Steel Corporation as to the prices to be charged for steel or the men to be employed as heads of departments. Yet that situation is not so unusual as to cause comment in American cities, or, for that matter, analogous situations are not uncommon in the chancellories of Europe.

THE COST OF COMPETITION

Two great difficulties, like Scylla and Charybdis, beset an orderly and socially effective system of private enterprise. On the one hand we have the danger of monopoly control, with its disturbance of natural forces of supply and

demand, of the natural substantial equality of advantage as between buyer and seller. On the other hand are the wastes of competition, wastes felt more keenly than ever today. Probably for most articles of retail consumption the total cost of producing the article is less than the cost of placing the article in the consumer's hands. And of the cost of distribution, only a part is represented by distribution costs necessary from the standpoint of getting the article to the consumer. A considerable part goes into purely competitive expense, the cost of getting our article sold rather than the other fellow's. High-priced salesmen who call daily on important customers, not with the expectation of orders, but merely to protect the account; expensive advertising campaigns; elaborate store decorations and wasteful competition in deliveries and service; duplication of equipment; the expense of keeping three or four salesmen in a territory one could cover, of having three or four milk-wagons cover a route for which one would be sufficient—these things illustrate the wastes of competition.

Business men have recognized this waste, and there is a constant tendency to reduce it by restricting competition, either by consolidation of ownership or by agreement and exchange of information. The theory of the Government of the United States has been that such elimination of competition should be discouraged, as tending toward restricting that freedom to contract on the part of the buyer which was deemed the best protection of the public against exploitation.

Certainly it is to be said for a competitive system, that while the wastes appear large, they are perhaps no larger than the cost of errors which might be made in a less sensitive market. Even with free competition there is a certain lag in the adjustment of supply to demand, by which a shortage tends to be followed by an oversupply. But, as a whole, the regulation in a freely competitive market is automatic and sensitive accurately to conditions. Scarcity and increasing price bring new producers into the market

and decrease the consumption, until an equilibrium is reached. The same forces, of course, operate even under monopoly conditions, but in a distorted fashion.

With the growth and closer articulation of business, it appears to be difficult to maintain the condition of open competition, however desirable it may be. The position of the government seems to have been pretty definitely abandoned as far as such public utilities as the telephone, power, gas, and so forth, are concerned, and there appear tendencies to recognize the inevitableness of consolidation in the case of the railroads. The Supreme Court has recognized the reasonableness of an exchange of cost information by trade associations. The protection of the buyer under the conditions of substantial monopoly control presents a new problem in government. The present answer is state regulation to prevent abuses, and the Interstate Commerce Commission and state utilities commissions are illustrations of this policy.

CONSUMER'S COOPERATIVES

A plan which has not been very successful in this country but which is used to a considerable extent in Europe, is the consumer's cooperative, or Rochdale plan. It is interesting as representing a plan of production intermediate between state and private operation. The original plan was put into operation by a group of working people in Rochdale, England. Each member of the group contributed capital to a common fund, administered by one of the group or a hired manager, and used to stock and operate a small retail store. Goods were sold to the public and to members at market prices, but after setting aside suitable reserve funds, and paying a fixed rate of interest on the contributed capital, all profits were returned to the members in proportion to the amount of their purchases, the effect being to furnish goods to members at cost. The movement spread until in 1914 it is stated by Sonnischen¹ that one-fourth of the retail

¹Sonnischen, Albert, *Consumer's Cooperation*, Macmillan, New York.

trade of Great Britain was done through cooperatives, and the organization owned factories, steamship lines, wheat lands in Canada, and tea plantations in India. Even before the revolution, Russian retail trade was largely transacted through the agency of cooperatives, and the system has been continued under the Bolshevik régime. In Belgium, Sweden, Denmark, Switzerland, and other European countries the plan has also been widely used. As compared with state-controlled production, the plan has the advantage of subjecting the organization at all times to the test of competition with private initiative. If inefficiently managed or laggard in meeting new demands and adopting new ideas, the way would be open to efficient private enterprise, and probably at all times creative, artistic, and other non-staple lines would be left to private individuals. The great saving, of course, would lie in eliminating the competitive costs of getting business and reducing the hazards in estimating demand.

The principal weakness lies in the fact that there is not the same incentive to initiative on the part of a manager hired by such a decentralized group, as there is on the part of the merchant who is risking his own money and using his brains for his own benefit. The plan has been tried in this country two or three times, usually on the initiative of labor union groups, and has so far failed to establish itself in competition with the well-intrenched chain stores and other retail distributing agencies. Its success in Europe apparently lies principally in the field of the simple staple lines of goods and enterprises.

FIELDS OF ECONOMIC ACTIVITY

We have in this chapter considered briefly some of the basic concepts which regulate and determine economic activity, and in a broad way some of the more important possible alternative proposals for the undertaking of production. There remain for consideration in subsequent

chapters, the various organization forms commonly used for the conduct of private enterprises, and a discussion of certain forms of collective activity, not strictly private or profit enterprises, but of considerable interest to the business man.

It will be well, in this first chapter, to give a brief survey and classification of the economic activities which constitute the field of business and of government.

A CLASSIFICATION OF ECONOMIC ACTIVITIES

1. *Productive activities*, contributing directly to the satisfaction of material wants:
 - (a) The primary *extraction* or utilization of natural resources. Mining, water-power, lumbering, farming;
 - (b) *Manufacturing* or conversion:
 - (1) *Processing*—such as the conversion of iron ore successively into pig iron, steel, and steel rails or structural shapes;
 - (2) *Assembling*—such as the building of a bridge or assembly of a machine. Manufacturing is commonly spoken of as including those processes conducted under the roof of a factory, but outdoor construction work, for example, is essentially a special type of manufacturing;
 - (c) *Transportation and communication*:
 - (1) Railways, boat lines, express service, truck and delivery services, taxicabs, street railways, and so forth;
 - (2) Communication—telephone, telegraph, “radio,” the mails;
 - (d) *Distribution or merchandising*:
 - (1) *Selling* and advertising, persuasion of purchaser—wholesaler, retailer, advertising agencies, salesmen;
 - (2) *Warehousing and delivery*—forwarding companies, and so forth;
 - (3) *Collection* of payments, information as to credit—mercantile agencies, collection agencies, and others;
 - (e) *Financing*:
 - (1) The supply and securing of contributions of *owned capital* by investors in stocks and shares—promoters, investing public, and so on;
 - (2) *Loaned capital*—banks, bond-houses, instalment financing companies, insurance companies, investors;

- (3) *Assumption of specific risk of loss*--insurance companies;
- (f) *Personal and unclassifiable services*:
 - (1) *Professional* advice and services--lawyers, accountants, doctors, consulting engineers, and others;
 - (2) Other *personal services*--barbers, domestic servants, and so forth;
 - (3) *Education*--general education, trade schools, and so on;
 - (4) *Entertainment and recreation*--theaters, travel bureaus, lecturers, musicians, professional athletics, moving pictures;
 - (5) *Miscellaneous* unclassifiable services.
- 2. *Regulative activities*--those not directly productive, but necessary for the development of thought and the adjustment of conflicting human activities and desires:
 - (a) *Agencies for the formation and direction of opinion*--thinkers, publicists, the press, the church, schools, societies, and so forth;
 - (b) *Agencies for the codification of public opinion into laws*:
 - (1) Lawmaking--congress, legislative bodies;
 - (2) Law interpretation--the courts, the bar;
 - (c) *Agencies for law enforcement* and the protection of society--the executive branches of government, the police, penal and reform institutions;
 - (d) *Agencies for the protection* of national interests in contact with other nations--diplomatic service, army and navy;
- 3. *Consumption*--all those activities of eating and drinking, merrymaking, and reflection for whose successful issue the two previous activities exist.

Of these functions the regulative function may be divided into two parts. In a democracy the function of forming opinion is, and should properly be, the spontaneous expression of human aspirations and the leadership of the thinker and prophet. Any attempt at the systematic control of this formative process, by the enforced teaching of the ideas of any party, for example, tends toward stagnation and the

building up of entrenched interests opposed to change. Once formed and expressed as to the group will, however, this opinion needs the force of the state to prevent its nullification by selfish or anti-social individuals.

NON-PROFIT ENTERPRISES

We have discussed some of the possible plans for the carrying on of the productive function. In general, those functions which will not yield a profit to the individual, but are beneficial to the group, are usually best undertaken by the state. Thus education, many classes of research—such as the study of health and disease, of agricultural methods, of standardization in industry—are properly state undertakings. Another and very effective agency for this type of social enterprises is the endowed institution, supported by private gift of one or many individuals, such as our great endowed universities. While some fear the influence of the founders of such institutions, usually wealthy men, in spreading the propaganda of the wealthy and conservative, the endowed institution is usually in fact fully as independent as is the state undertaking, and constitutes a wholesome corrective of that danger of uniformity of opinion and method which is inherent in state control.

State operation or regulation may become necessary where some vital necessity passes into the hands of a small group who use their power for exploitation. But experience in Europe and in America seems, in the main, to have demonstrated the greater social efficiency of leaving production, where possible, to private enterprise, except for such purposes as those mentioned.

THE BUSINESS MAN AND ETHICS

Many thoughtful men feel that the present social order places an undue emphasis on the meaner and uglier human characteristics; that the competitive system tends to glorify

selfishness, ruthlessness, an undue justification of unworthy means, provided only the end is attained. As has been mentioned, it was inevitable that with the increase of specialization and the division of duties, the mechanism of exchange should become more important and the position of the merchant should become a strategic one. Whatever the economic system society may adopt for distributing the fruits of production, short of a catastrophic reduction in the world's population nothing would make it possible to return to the older, simpler, less specialized order. And in distribution, each panacea seems to bring its own train of ills. Human selfishness finds a way of coming to the surface with any plan, and the task of social progress is rather that of evolution and education, than of panaceas or systems.

Trotter¹ points out the significance in the survival of the race, of the gregarious or herd form of organization. The law of survival of the fittest is a hard and often a cruel law, but it seems to be nature's law of progress. The instincts of self-aggrandizement, of combativeness, the cause of so much misery in the world, are but the inevitable and necessary mechanisms of protection developed by the individual for his survival. But the herd form makes possible the development of racially desirable qualities which could not survive in individual competition. Thus the family, the primitive gregarious group, by protecting the helpless young during infancy, makes it possible to lengthen the period of development and ultimately to produce an individual of superior effectiveness. Similarly, the tribal organization makes possible the maturing of the poet, the dreamer, the scientist, the religious teacher, of the man, in short, who, himself apparently the most helpless of individuals as far as bodily needs are concerned, has that to say which the race can ill afford not to hear. Thus in our democratic school system do we expose, to the contagion of learning, thousands of ordinary and impervious youths, not only to

¹Trotter, W., *Instincts of the Herd in Peace and War*, T. Fisher Unwin, Ltd.

BUSINESS LEADERSHIP

A definition by A. C. BEDFORD, President of the Standard Oil Company, of New Jersey.

Quoted by T. B. Spates in the *Bulletin of the Taylor Society*,
Volume X, Number 4, p. 208.

“Leadership in business and industry today requires not only a clear understanding of the technical fundamentals, but an understanding of the principles of cooperation between different business groups and active participation in the community life of the nation, a knowledge of the fundamental laws of economics, a deeper sympathy with mankind, a keener judgment in selecting and training men, and a breadth of view embracing the highest rules of service.”

mold the average man to acceptable conformity with society, but that we may not fail to impregnate and prepare the minds of the few leaders of action and of thought whom the world needs.

In the gregarious instinct we may hope to find the answer and the curb to the unbridled and destructive play of the selfish and the combative. For the gregarious instinct is the sense of oneness, of fellowship, the identification of self and self-interests with the interests and the advancement of the group and of its other members. From this source comes the sensitiveness of the individual to the opinions of his fellows: his uneasiness when he is transgressing the code of the group. And in this sense of identification of individual desires with the common purpose, we find the genesis of patriotism, of altruism, of loyalty, of all those finer impulses which prevent the world from sinking into a shambles

of murderous greed. Fortunately, the gregarious instinct is no less firmly seated than is that of selfishness in the normal human, and if changing conditions have swung the pendulum too far in one direction, we can count on the natural reaction of sentiment of which there are already so many signs to restore the balance. In such an evolution it is the spirit that counts rather than the mechanism; the effective method of progress is not the destruction of old and proved mechanisms, it is, rather, the placing of the individual on the side of the constructive and social use of mechanisms. The ultimate power resides in public opinion; the ultimate task is the education of the backward sections of that collective voice and heart.

II

TYPICAL ACTIVITIES OF A BUSINESS

The functions of manufacturing business. Production. Design. Supply. Control. Operation. Distribution. Administration. Organization diagrams. Mercantile and other businesses. Filling the customer's order. Procedure in manufacturing. Retail-store procedure. Systems.

IN the previous chapter some of the important primary concepts which underlie the social and productive system were discussed and an outline was given embracing some of the principal economic activities of society. With these principles and concepts it is not the task of this book further to deal; they are fundamentals which underlie and color the use of those mechanisms of business which it is our purpose now to describe.

THE FUNCTIONS OF A MANUFACTURING BUSINESS

Within the business we find a little polity of related necessary functions, comprising the activities of the business, which correspond in many points with the larger functions of the social organism. As in that case, we may gain by taking a bird's-eye-view of the typical business before considering its details. A manufacturing business will be described first, because of its comprehensiveness, as it embraces practically all of the functions commonly found in other types, in some form or another.

The three primary functions of a manufacturing business are *production*, *distribution*, and *administration*. Administration enters into and overlaps both of the other functions; it is the planning and facilitating function, while the other two are the functions of performance. While it is difficult to separate administration and planning from the other func-

tions at every point, its importance and distinctive character demand separate consideration for it.

PRODUCTION—DESIGN

Church¹ suggests a classification of the functions of production which, slightly modified, is as follows: The first element necessary to producing any product is the *design*. This includes the design of the article itself and the specification of the materials from which it is to be made; the design of the tools and special appliances required in its manufacture and a specification of the machines and processes best suited to its production. The design function may also be extended to cover all the broader phases of investigation and planning of the arrangement of machinery, improvements in process and system, organization structure, and other general questions of improvement which are usually largely delegated to the staff. Specifically, for the exercise of the function of design in the factory, we find typically an engineering or designing department, a tool designing and process layout department, if there is much of this class of work, and various "methods" and staff departments.

SUPPLY

The second basic function of production is supply. Supply must furnish at least four of the five "M's" of production, materials, money, machinery, men, and management. For the supply of materials it is usual to find a "purchasing department," and for their storage and control after purchase, a "stores department." A "receiving department," with which is often combined, because of the physical similarity of the work, a "shipping department," also belongs to the supply group. The function of supply of money is performed by the general administrative staff of the busi-

¹Church, A. H., *Science and Practice of Management*, The Engineering Magazine Company.

ness, frequently with a special financial department to assume direct responsibility for seeing that this need is met. The treasurer may be at the head of this department, with a cashier who acts to disburse and account for funds. Machinery is usually ordered by the various operating departments, by the superintendent, or the general manager, through the agency of the purchasing department. For its care and maintenance the tool department and a special shop engineering or millwright's department are usually included in the factory organization. A "new building construction department" and a "building service department," which is in charge of janitor and watch service, may also be included in the group responsible for the supply and maintenance of equipment and machinery.

The supply of men is the function of the employment department. The maintenance of good relations and working conditions with and for the men may be left to the operative officials, or a special "department of labor" or of "industrial relations" may be included. Management falls properly in a later group, yet the supply of managerial personnel belongs here. The responsibility devolves on the employment department for routine and subordinate workers; the higher executives usually personally select the more responsible members of the executive force.

CONTROL

The third element in production is control, which takes the design and brings it, the material, and the man together under the right conditions for production. There must be first a disciplinary and directive control of the men; the giving of orders and instructions. This is the function of the supervisory force. Next there must be a program, or time control. The planning department has the function of arranging the order in which jobs shall be done, to the best advantage from the standpoint of pleasing the customer by prompt delivery, of utilizing the equipment to the best ad-

vantage, and of securing the most economical application of the various forces of production to the product. The factory general office also assists in this process, its especial function being to prepare the orders for production, to keep the files, and to furnish clerical services and accommodations to the accounting and other sundry departments. The planning department also furnishes the information on which the supply departments act. Control of quality is usually secured by a special inspection department, with additional supervision by the engineering or design department, which is in an especially favorable position for seeing that its designs are correctly translated into finished product, and for profiting by any lessons which defects in the product may teach. Finally, control of expenditures is assured by the finance department and sometimes by the budget committee, which make the plans, and by the accounting, cost, and statistical departments, which keep the records of operation on which planning and control are based.

OPERATION

From three-fourths to more than nine-tenths of the total personnel of the average factory will be engaged in the diversified tasks of making, assembling, and finishing the product. The specific organization of the operating departments will obviously differ so radically with the process that no general description would be possible. In the case of a company doing a general printing business, by way of a random illustration, the operating departments would probably include the following: A composing room, usually with machine and hand sections. This department sets into type the copy which comes from the customer. Straight type-matter, such as a newspaper or book, is usually done more economically on the typesetting machines. Special layouts, such as advertisements, involving artistic arrangement of type, usually go to the hand composer. In connection with this department there will be hand-presses on

which a few sheets of proof may be "pulled" for approval or correction before printing. The next department is the pressroom, in which are located the various printing presses, from the small, fast Gordon press for circulars, cards, and small work, up to the huge rotary presses used for newspapers, magazines, and multiple printing of the smaller work. Next will come the bindery, in which the printed material is cut to size, and if to be assembled, is stitched or folded or gummed into pads, and made into the final form of book or magazine or circular. In a large book-printing concern this department would probably be subdivided, with a separate department making and attaching the covers. Much of the work of preparing photo-engravings, electrotypes, and other illustrations, is done by outside firms specializing in that class of work, but occasionally this work is also done by an art and electrotype department.

Each of these operating groups will be connected to the rest of the factory by a representative of the control function, the department foreman, who acts as a liaison officer between the department and the various other functions and departments.

In the other departments it is also possible to trace something corresponding to the function of operation, for each of these has its own work to be done in quantity, its own design, supply, control, and technical operating problems to meet.

DISTRIBUTION

Distribution of the product made by the factory involves, first of all, selling. The customer must be acquainted with the product and persuaded that it fits his needs, and his order secured. Advertising is a special form of mass selling, which follows the general theory of selling, with suitable modifications, and is usually closely connected with the sales department in the organization. In the printing business, traveling salesmen are employed who visit the customer, ascertain his needs for printing, and usually furnish him

with an estimate of cost and suggestions as to the best method of doing the work. Many printers advertise by sending out a little magazine or "house organ" at more or less regular intervals to their customers. If soliciting retail trade, as a few printers specializing in stationery do, they may have a regular advertising department and use magazine or newspaper space or other means of announcing their product. A credit department is also needed in selling, to pass on the dependability of customers, and to collect overdue accounts.

The next step in selling is delivery. This involves, first, in many cases, the provision of warehouses where the finished product can be stored until sold, either at the factory or at points convenient to the greatest numbers of customers. Then comes transportation of the product to the customer, either by some common carrier, such as the railroad, or by the firm's own delivery service. The printer usually does, in the main, a local business, and most of his work is sent to the customer by wagon or delivery boy. It is necessary, also, to secure the signature of the customer for the goods and to record the transaction on the accounts receivable books. Probably the delivery boy employed by the printer would hand the customer a duplicate receipt when delivering the printed matter, one copy of which would be retained by the customer and the other signed and sent back for record and filing at the office.

ADMINISTRATION

All of the activities of control previously described may be regarded as phases of the problem of detailed administration. For successful issue, they must all take place in harmonious and accurate response to the impulse of a single plan. The broader phases of this plan constitute a phase of administration not specifically covered in the foregoing description. Policies must be worked out and general plans laid whose results will blossom out in the details of specific

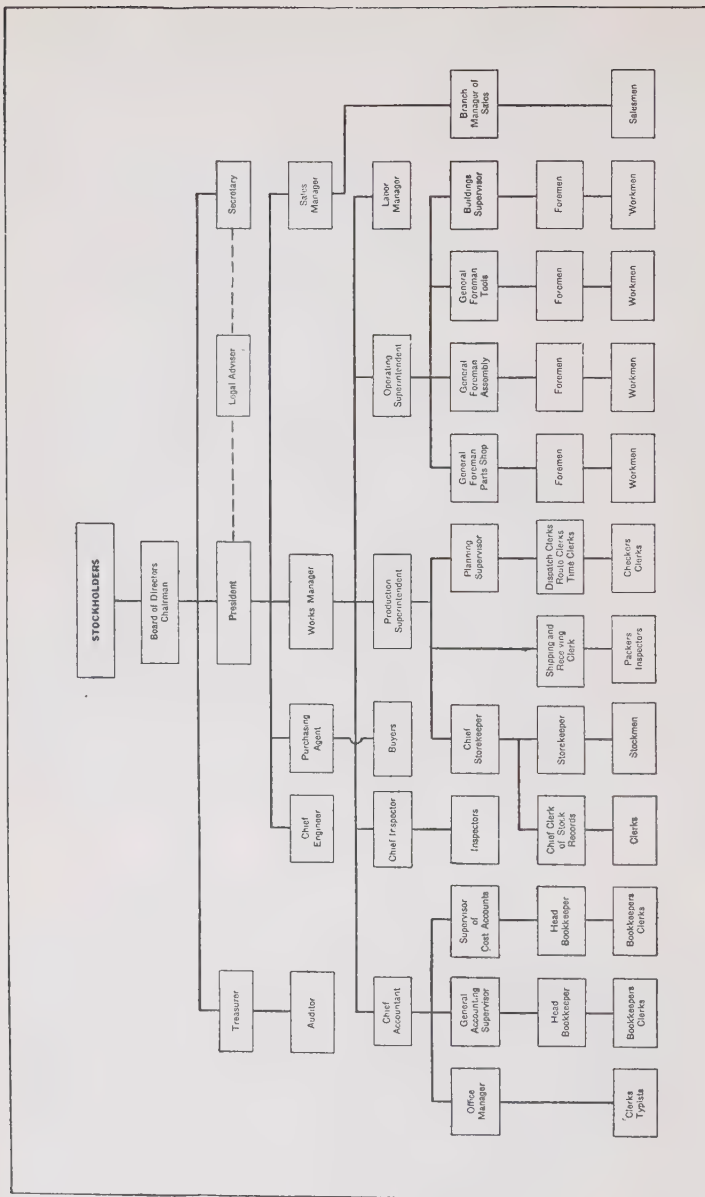


Figure 2: Chart showing typical organization of a manufacturing plant.

plans and performance. The administrative departments are the common meeting point of sales and of production. In the "general office," as it is often called, will be found, first, the desks used by the sales manager and the works manager when they are not out on the job, as they will be most of the time. The main section of the accounting department will also often be located here, with other sections in the factory office and representatives in branch offices in the various cities. There will also be in the general office an office or service department furnishing to all departments stenographic, mailing, and filing services. The general office will also house the officers of the company, the president, the secretary, the treasurer, and the various vice-presidents. It will often contain a conference room in which meetings of the board of directors and of various executive and other committees will be held. Other offices and activities may also find their home here, those described being simply those typically located in the general offices of a large business.

ORGANIZATION DIAGRAMS

The conventional method of describing an organization is by the organization diagram. There are several forms in use, one of the commonest and most useful being illustrated in Figure 2, which also shows a typical factory organization. In the organization diagram, relative rank may be indicated to any desired degree of accuracy by position of the box showing the office, in the vertical scale of the drawing. Direct authority is shown by full lines, conference or limited authority by dotted lines.

MERCANTILE AND OTHER BUSINESSES

A manufacturing business was chosen as an illustration in describing the functions of a typical business, because it embraces both the functions of production and distribution.

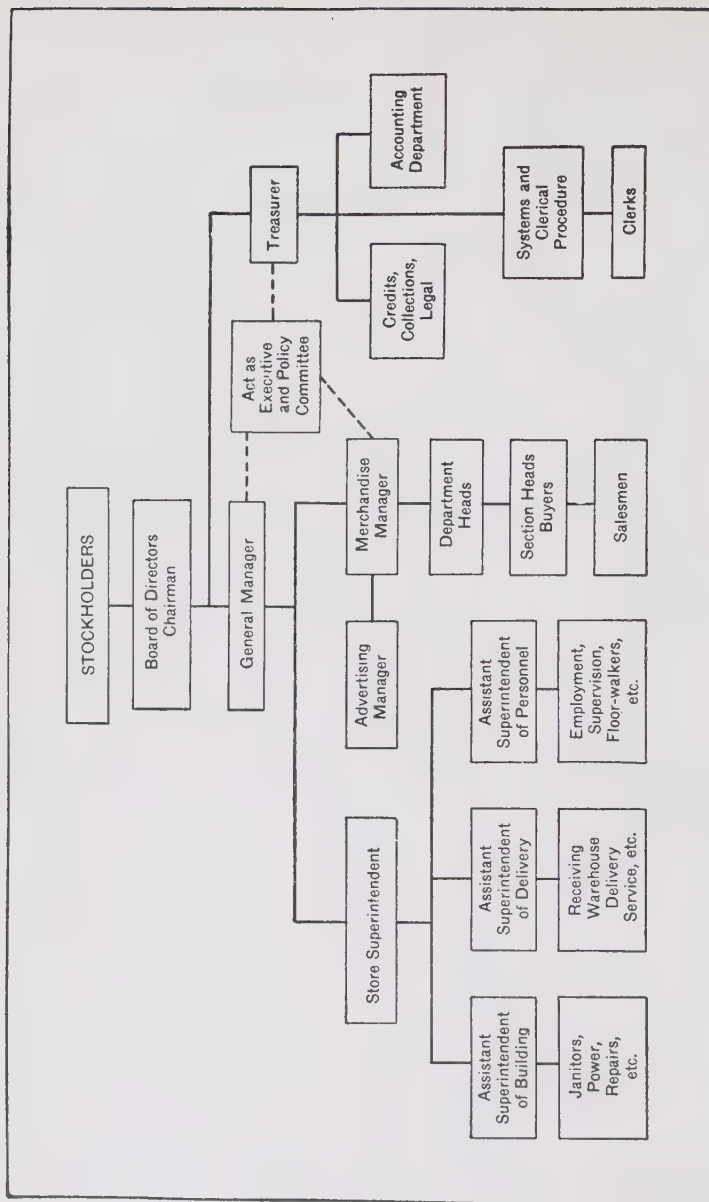


Figure 3: Organization chart of a retail department store.

It is only necessary to make a few changes in the outline of functions to make it adaptable to a wholesale or retail merchandising business, a bank, a railroad, or a contracting business. In each of these there is a product or a service to be sold, with typical departments for advertising and sales promotion. It is only in recent years that the banker realized he had anything to sell, but today one will find it a common thing for the banker to undertake extensive advertising campaigns and even to employ salesmen to solicit new business. And every bank pays close attention to the selling angles of its contact with the public.

Similarly with the functions of the credit department, of purchasing and supply of materials, of labor management. They are found in all businesses, now incidental, now, as in the case of credits in banking, expanded to departments of major importance. And similarly evidently, the function of administration, of planning and supervision, will be found as indispensable in one business as in another, and the general technique of planning will be similar in all.

It would seem hard to find an analogy to the productive departments, in a purely mercantile business. In railroad-ing it, of course, is found in the operating division whose product is transportation. It is incidental only, in a literal sense, in the bank or retail store. And yet it will be found, wherever there is a volume of work to be done, whether that work be the making of motors or the selling of them, that it becomes profitable to employ somewhat the same general methods of planning, supervision, cost finding, handling of stores, and so forth, which we find in the factory.

By way of comparison, a typical organization diagram for a large retail store is shown in Figure 3.

FILLING THE CUSTOMER'S ORDER

The relationship of the various activities of a business may be shown in another way, by mapping the typical procedure followed in filling an order for the company's

product. For any particular organization, such mapping of the procedure into a sort of chart or orderly series of steps is a good way quickly to master the general method of operation, just as the construction of an authority diagram is a good way of getting the organization plan clear. Let us follow the procedure which would be taken by a wholesale merchandising house in filling an order from one of its customers.

The first step will be the opening of the customer's order in the mailing department. At this point the mail will be sorted by classes, into orders, inquiries, remittances, and similar classes. Money will be removed, to be turned over to the cashier, and the amount will be noted on the letter or in an appropriate form attached to the letter. Correspondence will be stamped with the date of receipt. Larger firms, such as the big mail-order houses, follow a definite system of scheduling the handling of correspondence. Each order (or other class of correspondence) is stamped with the hour of receipt and a scheduled shipping hour. Thus an order opened at 10:10 a.m. might be scheduled to be in a certain bin in the shipping room between 4:10 and 4:20 that afternoon, and thus all items would arrive simultaneously and be packed, leaving the bin free 10 minutes later to accommodate another schedule order. In case of failure to meet schedule, the whole order would be passed over to a tracer, the regular packers handling only routine orders. If the office is crowded, the schedule allowance is lengthened to correspond, but is seldom permitted to exceed 24 hours. Where additional work is necessary, longer time would, of course, be allowed.

Orders, if not accompanied by a remittance, will go next to the credit department for approval. After this step, and a check of descriptions, prices, and extensions, the order will be put in form for filling and record by writing it up as a house order. This will bear a serial order number by which it will be thereafter identified, and will be written in one or several copies, according to the system used. In

case more than three or four copies are wanted, special flat-bed typewriters or hektograph duplicating machines would be used.

One copy of this order will be filed for record. One will be sent to the billing department, which will price and extend the items which had been checked as sent, and prepare the invoice from it. Sometimes this copy is made to serve directly as the invoice. One copy will be sent to the customer as an acknowledgment of order, enabling him to correct any mistakes he or the office may have made in ordering or copying. One copy will be sent to the shipping room to check the packing of the outgoing shipment. One will be sent to each section of the stockroom, as a guide in picking the goods from stock.

Various other clerical procedures are followed. The mail-order house, dealing with numerous small orders on which it is important to reduce clerical expense, sometimes takes the customer's order and cuts it up into items with a pair of shears, pasting each item on the appropriate stock section instruction form. Where speed in filling is not essential, a single copy may be passed from section to section, the accumulated items accompanying the order to the shipping room.

On arrival at the shipping room, the items of the order would be assembled in a bin or box, inspected, counted if necessary, and packed, a contents slip being attached to the package to aid in checking by the customer. The duplicate order, checked for filled items, would be sent with the express receipt or railroad bill of lading, to the billing department. This department would prepare the invoice and mail it with the bill of lading to the customer. The invoice would then be turned over to the accounting department for posting to the customers' ledger, and the account finally cleared on receipt of payment. This is a typical system for handling the direct transaction with the customer, and is summarized in the procedure diagram shown as Figure 4.

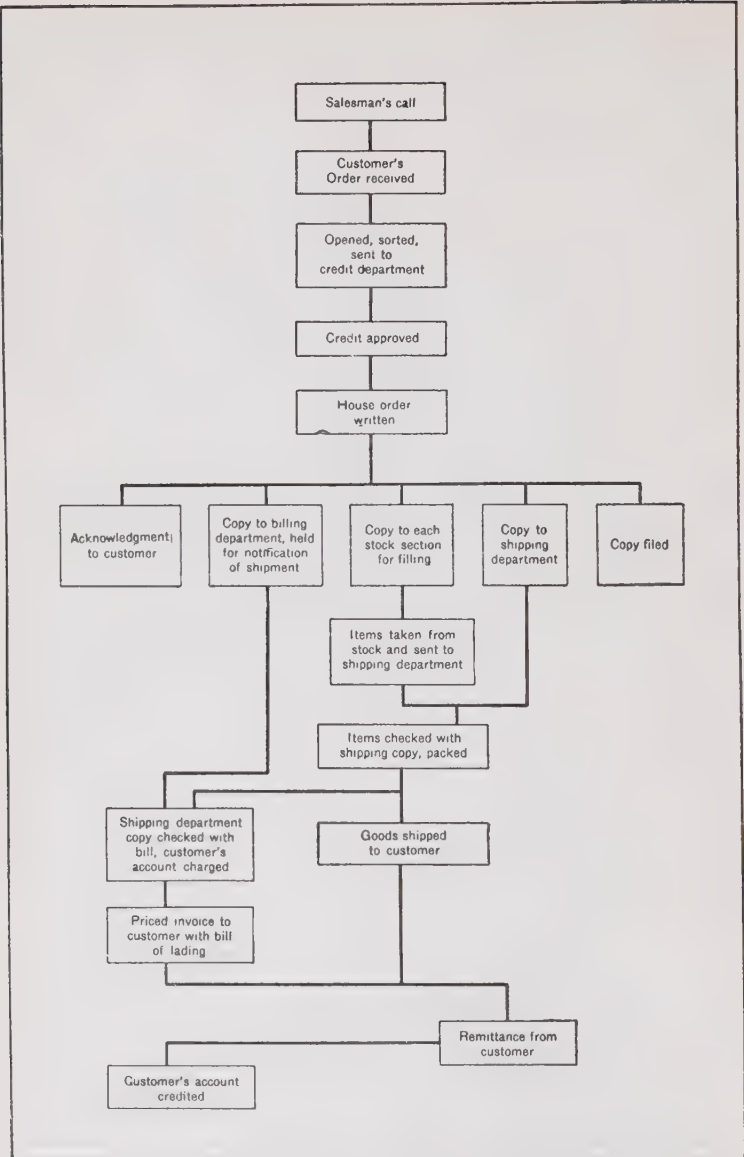


Figure 4: Diagram showing the course of an order.

Several secondary cycles of action must precede or follow this primary transaction. The first of these is selling, to secure the order from the customer. This might involve calls by traveling salesmen, and an advertising campaign to secure inquiries, catalogs being sent to the inquirers. Many voluntary inquiries will be received, from those who have heard favorably of the company from friends. Special circulars and offers will be sent to the mailing list from time to time, to stimulate trade in dull periods or generally to increase it.

A second cycle of activities is necessary to supply the goods shipped. Each time the catalog is made up, it must be decided what items shall be listed, and arrangements must be made for their manufacture, or contracts placed to insure delivery and price during the life of the catalog. An initial stock is purchased and placed in the department warehouse, and the stockkeeper is notified to place a reorder as soon as the stock is exhausted to a definite low limit. If Jones' order, just filled, happens to come at the minimum point, the stockkeeper, as soon as he has taken out Jones' case of shoes to be sent to the shipping room, will write out a requisition for 10 more cases, or whatever the specified reorder quantity is.

If this were a factory, the reorder would probably be a manufacturing order, and would then start another secondary cycle of production.

Continuing, however, our trip through the wholesale business, we may turn next to the financial problem. If goods are sold on credit, a period of increasing business is evidently likely to mean that for a time the value of goods shipped may exceed the receipts from sales. Extra cash is needed to finance these shipments and must be provided, either by holding profits in the business, or by borrowing money or securing additional capital. In any case, there will at all times be not only the fixed investment in buildings and equipment, but there will be a fluctuating but heavy investment in merchandise on hand, which also will mean extra

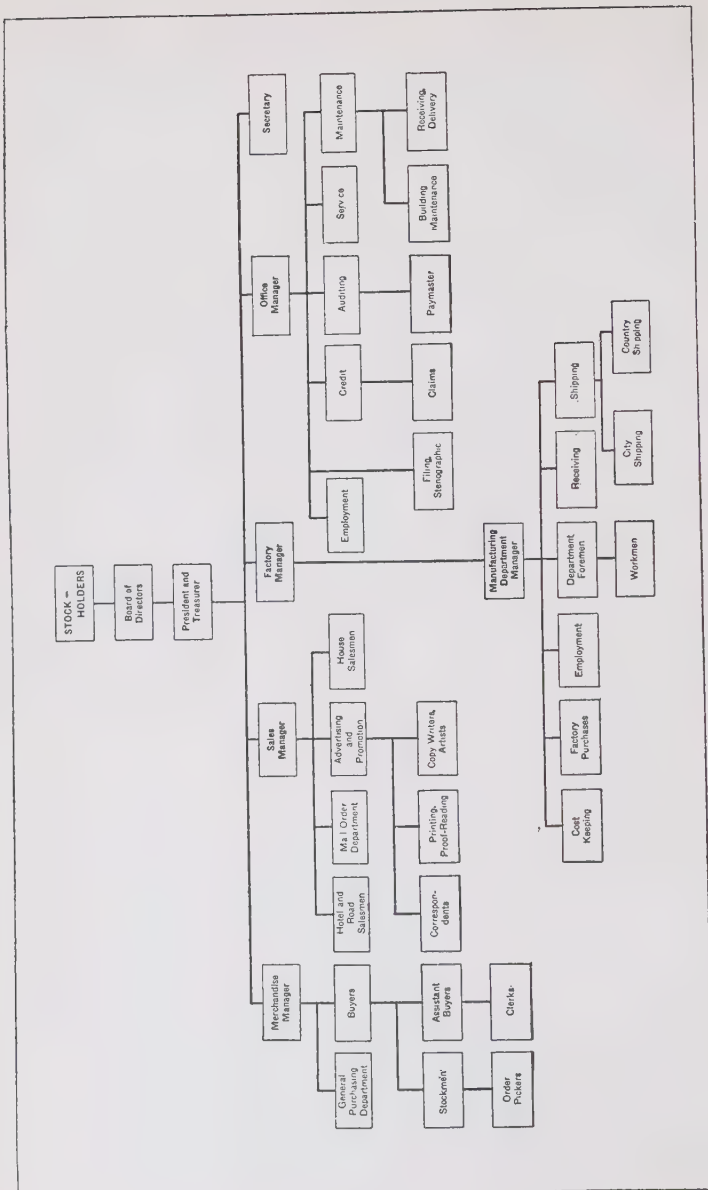


Figure 5: Organization in a wholesale house.

financial burden just before holidays and other periods of heavy sales. The complete clean-up of purchases, so that no out-of-style or unsalable merchandise is left on hand, is, of course, primarily a problem of wise buying and effective selling. But the quick movement of goods has also its financial aspects, for the lower the average inventory, the lighter will be the financial burden, and the smaller will be the expense of borrowed money.

Another auxiliary activity will be the heating, policing, cleaning, and keeping habitable of the building, the elevator services, and so forth. Another will be necessary to hire, and to retain the efficiency of, the hundreds of employees, clerks, stockmen, packers, porters, and minor executives. A purchasing problem will be met just in buying the supplies, the stationery, the office equipment, and so on, necessary for such an organization. Finally there will be the executive function of coordinating all these services and of making general plans.

This organization will bear some similarity to the merchandising organization shown in Figure 5. There will be a merchandise manager, who is responsible for the main activity, the selection, buying, and selling, which is done by the various merchandise department heads. He will decide the quota which each department's business is expected to meet, the expenses permissible for the given quota, the high limit to be set on buying by any department. There will be an advertising manager, responsible for getting out the catalog and, in general, in the wholesale house, for the actual measures taken to induce sales, except for the important contribution of good buying of the right merchandise at the right prices.

There will be a financial man, working with the other department heads and the general manager, in making the plans for the use of cash and providing money. And over these will be the general manager. This is a brief description of a plan of operation, commonly found in its main phases, in many types of merchandising business.

PROCEDURE IN MANUFACTURING

The general clerical procedure and system in manufacturing will follow much the same plan as that given. If the company regularly carries finished stock and fills orders from stock, the procedure will be almost exactly the same, except for the secondary replacement order placed by the stockkeeper, which becomes a production order instead of a purchase order. The details involved in putting an order through the factory will be described in a later chapter on production methods.

If customers' orders are made up only as received, this routine will be modified by having the orders go direct to producing departments instead of to the stockroom. The order must then be routed and scheduled, manufactured, assembled, and tested. The completed order, or the various completed parts if it is to be shipped knocked down, will now go to the shipping department and will be handled as before described.

RETAIL-STORE PROCEDURE

We may trace the same basic requirements in simpler form in the usual method of handling a store sale. The customer meets a pleasant clerk at the counter and is assisted in making his selection. If it is a cash transaction, he pays the purchase price, the article is wrapped up, and the customer walks out of the store with it. Even in this simple case this is not quite all there is to the transaction from the standpoint of the store. The replenishment of stock is usually the responsibility jointly of salesman and proprietor in the small store, of the department buyer in the large business. Various systems are used for replenishment. Often regular inspection and checking up of the stock on the shelves is the only means of replenishment used. Theft of goods is a serious problem in all large stores, professional and amateur shoplifters finding it an easy matter to

pilfer small articles unobserved. To protect against this loss, many large stores wrap all parcels sold, and give the customer a sales check, so that the store detective can notice unwrapped parcels. Correct accounting for cash receipts by the clerk is also a problem. Here the cash register, the check-up given by inventory, and, if necessary, the services of the store detective are employed.

If the goods are to be charged and delivered, the parcel, with the sales slip, is sent to the packing room. Deliveries are, as far as possible, laid out on regular routes, and the parcel will be sorted by a system of conveyers, in a large store, much as mail is sorted in the post-office, all parcels going on each route being collected in regular order for delivery. One portion of the sales slip will be attached to the package as an address, another portion, bearing duplicate information, will be sent to the bookkeeping department for entry to the customer's account. From this account, monthly statements will be made out and mailed on the first of the month.

In the store also there will be the secondary cycles of activity—advertising, replacement of sold stocks and purchasing, personnel management, financing, and executive management.

SYSTEMS

Any business may similarly be broken down into a series of primary, secondary, and derived cycles of activities, and the problem of the systematizer is to so interlock these activities that they are, as far as possible, automatic, and proceed without the need of more than general supervision. The minimum stock limit, or ordering point, is a familiar example of such interlocking.

To avoid the danger of trying to handle exceptional cases by the routine is one of the problems of the system man. Thus the writer once replied, more or less patiently, three times in succession to the same polite form letter, sent three times, asking for a statement of the difficulty. An order

had been misssent and not received. Evidently the letter was handed each time to a routine clerk, who, knowing only one way to handle a complaint, filled out the proper form with name and address, and mailed it. The method of avoiding such stupidities and mistakes is to see that the first sorting of mail or assignment of duties is made by some one intelligent enough to start the matter in the right channels, and to provide instructions that automatically divert exceptional or non-routine cases to higher officials. Close watching of complaints is also a safeguard.

It is a good thing at intervals systematically to follow through the systems of filling orders, purchasing, handling inquiries and correspondence, accounting, collections, and other matters of routine. They have a tendency to slip and to break into looser or variant forms which may cause confusion, and old routines often persist long after changed conditions render them obsolete. Carl Barth, one of the pioneers in management who worked with Taylor, tells the story of visiting a municipal office in England which was supposed to be a model of efficiency. In one room a man was observed, seated near a hole in the floor, and provided with a pail of water and a dipper with which he poured water into the hole at regular intervals. No one seemed to know why he was there, not even the man himself. He had been told to do that job by his predecessor. Curiosity aroused, a search was made of old records, which showed that many years before, the building had suffered a plague of rats and a man had been hired to drown them out. He had done the job, but there was no one to tell him to stop.

In making any extensive changes in system it is a good thing to map the whole procedure by means of a diagram such as that shown in Figure 4. This makes it clear that there are no forgotten loose ends that do not tie up, and helps in explaining the plan to the higher grades of executives. Specific instructions or manuals may be prepared, if necessary, for each department or individual. A great deal of supervision, teaching, explanation, and demonstration is

required before any substantial change in system becomes habitual and reliable.

There is a danger in system as there is a danger in its lack. Every clerical transaction costs money. Every unnecessary transaction introduces delays and complications which distract executive and operative attention from the main business of making and selling and needlessly waste and hamper the precious quality of individual initiative. It is usually better and cheaper to hire men good enough to do the work right without excessive supervision, than it is to functionalize and cheapen and then depend on a maze of system to prevent and correct errors.

III

SCIENTIFIC MANAGEMENT AND SCIENTIFIC METHOD

The evolution of management. Scientific method. Scientific management. The business man and science. Standardization. Standardization of product. Planning.

ONE of the characteristics of evolution is the fact that for a long time after the evolution of an improved type of organism, the new type may be found existing side by side with more primitive types of every degree. Only gradually does the advanced type replace the inferior ones from which it sprang. Thus, even in this day of specialization and of large economic units we still find here and there illustrations of more primitive social forms. The dressmaker still works as did the old itinerant shoemaker who went from house to house, making up his customers' shoes. The one-man or one-woman store, with its mixed stock of candies, tobaccos, groceries, cotton gloves, and children's toys, and its little bell that rings when the door opens, still exists in numbers in the same city which houses the great modern department store, the chain store, and the mail-order house.

The same situation exists as regards one of the great advances of managerial method, scientific management. Its principles, first publicly described by Frederick W. Taylor, have so merged themselves in varying degrees and countless detail practices with the general body of business practice, that we tend to overlook the extent of the revolution which has been wrought.

It was inevitable that some one should lay his hands on the tool which has in a century revolutionized the physical world in which we live, and apply it to the problem of effec-

tively utilizing human energies in the organization. To scientific method and the scientific attitude of questioning, of seeking exact information, of testing conclusions by facts, we owe, indeed, the great advance and application of modern science in every-day life.

SCIENTIFIC METHOD

By a long and painful process, men have learned the best method of answering questions. It is a curious fact, explainable perhaps by the natural laziness and lack of originality of the human mind, that up to the very dawn of the present era there were few who thought of seeing whether their answers to questions corresponded to the facts. Speculations there were in plenty, and these speculations were often built up into imposing systems of philosophy. But few bothered to test the accuracy of these assumptions. Their own reasonableness was the test. The great civilizations of the Greeks and of the Middle Ages were thus blocked in further progress by their inability to build upon reliable foundations of knowledge.

The scientific man starts, as did the ancient metaphysician, with an assumption, or rather he tries to imagine all possible assumptions which might answer the question, reserving opinion as to the validity of any one of them. Or he may start without any assumption, simply setting down facts and observing all details of the situation he is studying, leaving all thought as to explanation till later.

The next step in the scientific method is the very exact and accurate *observation of the facts*. *Time and motion study* illustrates this method, as it is applied in finding better ways of performing work. The modern time-study man is not satisfied with the averages and snap judgments which used to be the accepted basis for standard times and piece-rates. He sets down each condition affecting the work, the time of day, the operator's skill and speed, the tools used, the material, a note of any difficulties or delays and their

reason, and all other pertinent facts. He then analyzes the operation into its elementary parts and times each part, using a stop-watch or an even more refined means, such as the moving-picture camera, for getting the exact time. All measurement is a process of comparison, and this analysis into elements enables comparison to be made, not between mixed averages, which represent many unrelated and unknown variables, but between single motions, which, being simple units, can be accurately compared. Studies are made of the same individual at different times, of different individuals, or different combinations of tools, motions, and other details. The results of these combinations are compared. The reason for differences can be ascertained because we have separated the total operations into elements, and can eliminate unchanging and non-relevant factors and compare the variable elements which account for the difference.

The same method of accurate observation and separation of factors underlies all scientific investigation. *Experiment* is one of the tools of observation. The trouble with ordinary affairs is that everything happens at once. Probably the man who started the it-is-unlucky-to-walk-under-a-ladder superstition actually did walk under a ladder the morning of an unlucky day, and when he came to explain the bad luck, he remembered the ladder but forgot that he had been out too late the night before and was not up to his usual form. The experimental method consists of an isolation of the variable, allowing one factor to vary at a time while the others are kept constant. Thus in the time study mentioned, a series of studies taken on one operator with the same operation and set-up, would enable us to develop a formula or a curve for the effect of fatigue on speed at different hours of the day. A study made on a considerable number of operators on the same operation would enable us to establish a range of capacity, an average capacity and comparative factors of individual capacity which would enable us to apply a correction for differences in the individual be-

ing observed. In the same way it could be ascertained whether there was any relation between temperature of the room and output, arrangement and kind of equipment, and so on, eliminating irrelevant factors and determining the quantitative relation of causal factors. With all these constants available, it is now possible to take the actual complex situation, as the time of the operator in performing a new job, and apply correction factors which eliminate variable after variable and correspondingly simplify the solution of the residual unknown factors.

A third step is necessary in the use of the facts gathered by observation, namely, *classification and combination of facts*. One after another of the possible assumptions, explanations, or hypotheses is taken, and the facts are so arranged as to test relationship between the effect and the supposed cause. Thus considerable difficulty was experienced in finding a sound basis of payment for the molding and casting of the ordinary cast-iron hot-water or steam radiator. Payment by the piece was obviously out of the question because of variation in size. Payment by the pound was found also to give a disproportionately large price for the heavy radiators. The problem here was to find a basis of payment which gave a sufficiently constant relation for practical purposes, to the time and effort required for each job. Various bases were tried, and a plan combining the various factors named was finally found to be the most accurate practical basis.

Classification may be defined as an attempt to group facts on the basis of common relationships. The choice of the basis of classification is dependent on its purpose, for of the many possible relationships of any group of facts, that relationship must be chosen which is most significant for the purposes of the classification. Thus a classification of applicants for jobs on the basis of their being, or not being, Swedes, as one Swedish foreman was in the habit of doing, did, of course, tell something about the general desirability and congeniality of the applicant, but it was not the most

significant, and, therefore, the correct, classification, from the standpoint of effectiveness in the work.

The value of classification is that it enables us to handle facts in groups or masses. One of the large wholesale mail-order houses has a customer's mailing list composed of many thousands of names. Each of the address plates bearing a customer's name is filed first geographically, by city and state, then in alphabetical order, and each plate is further classified by means of selector tabs, the addressing machine being so set that automatically the names of hardware dealers, variety stores, stationery stores, or any other large group may be selected and addresses printed. Classification is of similar use in the classification of accounts, which enables us to quickly locate an expenditure with others of the same kind. It is also applied to men, to duties, to materials, to tools, to almost any one of the elements with which the business man deals.

A famous example of the value of classification and arrangement of facts in science was the formulation of Mendeleef's law. Mendeleef found that if the elements were arranged in the order of their atomic weights, there was a regular progression or series, the weights increasing by equal steps from the lightest, hydrogen, to the heaviest metals, gold, uranium, radium, and so forth. There were gaps in the series, and the first fruitful result of the law was the assumption and subsequent discovery of the elements which fitted these gaps. Further study of this law, in connection with the investigation of the properties of radium, contributed to the formation of the modern theory that all the elements are composed of combinations in varying proportions, of even smaller particles, a theory that is changing our whole concept of the nature of the physical universe.

Following the steps of classification and arrangement of facts, in the scientific method, comes the selection and formulation of the proved explanation of the relationship between cause and effect, into a law. And a still further step is found in the subsequent testing of the law, discover-

ing exceptions, if they occur, and modifying the law to embrace them.

The application of the scientific method to business is well illustrated by the study of advertising made by Dr. Walter Dill Scott.¹ The relative value of small and of large advertisements was studied by giving a group of 40 students a copy of a magazine to be read. At the end of 10 minutes each student was asked to mention and later to recognize all the advertisements he could remember. Taking the class of advertisements devoted to books and periodicals, and classifying the advertisements remembered, by size, it was found that the full-page advertisement was recalled or recognized almost 9 times, the half - page 6 times, the quarter - page slightly over 1 time, smaller advertisements only two-sevenths time. This and other tests demonstrated the economy, in attention value, of the larger advertisement. By the same method, position value of top or bottom of page or next to reading matter, the attractive power of color, of different classes of copy and appeal, of different types of advertising mediums, have been determined by observation and experiment.

SCIENTIFIC MANAGEMENT

The most significant contribution of scientific management has been the application of the scientific method to the problems of business. One of Taylor's applications to the study and analysis of work has been described. Equally significant in a more special field was his study of the laws involved in the most effective cutting of metals, which form the basis of radical improvements in the metal-working industries. And in all sorts of unforeseen fields the application of the scientific method has proved fruitful—in selling and merchandising, in office management, in governmental procedure, and throughout the whole field of business.

¹Scott, W. D., *The Psychology of Advertising*, Small, Maynard and Company.

Growing out of the application of this method has come a body of knowledge and practice in which are the elements both of a science and an art, and which is included in the concept, scientific management. Accurate study and analysis of methods led to an emphasis on the responsibility of management for the doing of many things formerly left to the man to work out as best he might, and the evolution of the modern idea of the *planning department*, with its careful working out in advance of all the details of the production program.

Careful study and determination of the one best way to do work led logically to an appreciation of the importance of *standardization* in fixing the results of study in permanently usable form, and substituting the one best practice for a great variety of practices. Standardization was also necessary, in order that in planning, there might be as few variable and unknown elements in the plan as possible.

Another principle emphasized by Taylor was *functionalization*, an application to management of the principle of specializing tasks, which has been the basis of so much of the progress of the race.

In order to secure the cooperation of the men in putting into effect the new and improved methods, there was begun a critical study of *compensation*, so that it might effectively stimulate effort to the mutual advantage of employer and employee.

This is but a very brief recapitulation of some of the main, original directions of development of scientific management. Its application has led to new methods in many fields, such as factory work, selling, office management, the administration of hospitals and public institutions, governmental procedure, household management, to name only a few fields. The detailed methods which have resulted from the application of scientific management will be best described as part of the current practice in the various fields to be described in later chapters. Scientific management is most essentially an attitude of mind, the attitude of

impartiality, of exactness, of belief in the relation of cause to effect in business.

THE BUSINESS MAN AND SCIENCE

To what extent is the business man interested in scientific investigation? Probably his duty of applying it in his daily affairs has been at times overemphasized. As a matter of fact, the business man is not usually concerned with the formulation of principles but with the application of them. Like any other large task, the task of science in improving conditions must be functionalized. First comes the pure scientist, who studies the stars and the atom with little concern as to whether he will discover anything immediately useful, so long as he discovers something true. Then comes the engineer or the professional technician, who takes the new energies released by the scientist and harnesses them, works out rules for their application, reduces them to a routine, a practice or a trade. And last of all comes the business man, who, as we might say, harnesses the technician, adjusts his efforts day by day to the practical exigencies of the market and of production.

Here and there is a business man who is also a scientist, just as here and there is a business man who is also an expert designer or an authority on the technical phases of his product. Henry Dennison, of the Dennison Manufacturing Company, is an illustration of a business man whose mind has turned to the analytical study of the science of organization, not without profit to his business, and with distinct profit to society. But as a whole, practical, every-day business is an art, the application of science, but not science itself. But in order to master an art in which the application changes with changing circumstances, its principles must be mastered. Hence the emphasis, perhaps, on the value of science in business, which has unquestionably been the cause of some skepticism on the part of business men.

There is another side to the question. The business man

must leave most *formulation* of principles or inductive reasoning to the investigator. But the *application* of principles, or deduction, is of day-to-day concern to him. He has not the time to establish the theory of business cycles, but he wishes to know how the cycle will affect his business. Of course the majority of businesses are, and will continue to be, run on a follow-the-leader basis. One man raises prices, everybody else follows suit. One man cuts prices, and the rest follow, hoping, if not knowing, that they can stand the gaff if he can.

One of the country's largest distributors of business literature has pointed out the fact that the average life of a business is less than seven years and that the cyclic period of business expansion and depression is about a seven-year period. The standards of competition are being raised rapidly, so that a man can hardly hope to survive, let alone prosper or lead, as an independent business man, who does not have the respect for facts which is characteristic of the scientist, and who does not know how to use the modern information-gathering tools of business in getting the facts and making the decisions for his own business.

STANDARDIZATION

As has been mentioned, one of the important developments in the field of scientific management has been the general progress in the direction of standardization. The great task of the business man, the great consumer of creative and of executive energy, is the non-routine and the uncertain. Where a matter can be worked out and reduced to a routine, it may be handed over to a less skilled subordinate who will do it, with practice, better than the executive could himself. Standardization is therefore an *economizer of creative energy*. The reason form letters are often used in the collection of bills (although they may be disguised so as not to appear like form letters), is that in preparing the form letter, one can afford to use the best talent

and as much time as may be needed to get it just right, because once written, the cost of preparation will be spread over many uses of the letter. We mean, by an orderly man, one who has thus reduced most of the insignificant and the recurring affairs of life to an orderly program or habit, which insures their being taken care of regularly with the least demands on powers of decision, which may be more profitably applied to real problems and creative thinking. The procedure chart and organization diagrams shown in Chapter II illustrate this advantage of standardization.

The development of standards is equivalent to the development of a basis of *measurement*. If it is known what constitutes a normal day's output at an assembly bench or a typewriter, the relative efficiency of various workers can be pretty accurately determined. Also, if the output of the various machines and workmen is known with a fair degree of accuracy, the customer can be told how long it will take to complete the order, and a job schedule can be set up which has a fair chance to be done according to schedule. The same thing applies in the case of the financial standards on which a workable budget must be based. All the ordinary standards of measurement, the yard, the pound, the hour, the dollar, are fixed units adopted by agreement, with which other quantities of the same kind can be compared and thus measured.

Standards are also an essential to *coordination*. The parts of a watch are made separately by men who may never see the parts with which their product is to be assembled. In the old way, each part was fitted by hand, filed off a bit here, adjusted there, until it was right. Not only are coordination, speed of assembly, and a perpetuation of the best secured by standardization, but replaceability and interchangeability are secured. If the mainspring of the watch breaks, it can be replaced by a stock part.

The setting of standards is a matter of comparison of possible methods, selection of the best, and the taking of measures to cause a practice to conform to the standard.

Standardization is often a long and laborious process, involving exact studies of the many variations in practice, experiments and comparisons, before the best method can be ascertained, and then a period of instruction during which old habits are being re-formed.

STANDARDIZATION OF PRODUCT

The advantages mentioned apply in the standardization of product, as well as in the standardization of method and process. Moved by the perfectly proper desire to improve an existing product, a firm frequently changes its product or adds new models from time to time, retaining the old models. One rather naive argument for variety of product was advanced by a salesman who said that he liked to have several models so that if a customer did not like one principle of construction he could be sold another. People's tastes do vary, and people do like to have things exclusive, different. On the other hand, outside of lines in which personal tastes and the style factor enter, there is usually one best type of product. Concentration on a single pattern, as Ford has done, or limitation of the styles of pattern made, to the smallest possible number, results in important economies. The investment in stock and materials carried is much reduced, enabling a faster turnover of capital. It is not necessary to carry a large stock of practically dead repair and replacement parts for obsolete or little-used models. The investment in special tools, dies, and other equipment, nearly always made necessary for a new model, is minimized. Catalog and advertising costs are reduced, and the limited but largely sold model becomes more widely known in the trade. And not least important, the time lost in changing from one job to another is reduced, workmen become skilled at the one task, and it is often possible to put production on a continuous or progressive basis. In a concern with which the writer is connected, patterns have been reduced from over thirty to seven, of which three are

in process of elimination, simply being continued until groups of customers committed to their use can be won over to the standardized models. The only reason for having four models instead of one, is the fact that dealers desire, and it is profitable to furnish, the article built in a range of prices to fit various pocketbooks. It may be possible sometime to cut the number of models to one, as was done by a shoe manufacturer whose entire factory is devoted to the production of one size and width, of one model of shoe. Market considerations, of course, set certain limits to the degree to which this process of concentration can be carried; there are frequently real needs which cannot be satisfied by a single standard pattern. But any product should certainly be examined with the possibilities of simplification in mind. This examination will follow somewhat the lines of the scientific method; the preferred size will not be picked out solely on the basis of individual opinion, but by an analysis of demand, and of the other factors involved. Thus a retail store listed, for a period, the sales of the various lines of collars carried. Of sixteen styles carried they found that there was practically no sale for seven, and that two-thirds of the sales were in three styles. A decision was made at once to cut down the styles to the six best sellers.

The advantages which apply in the individual firm apply with equal force to a whole trade. It used to be a pet idea of manufacturers of office machinery, and other machines using supplies, to make the dimensions, screw threads, and so forth, special, so that the buyer of a machine would have to come back to that firm for his supplies. Each maker dimensioned his article without regard to the standards adopted by others. Thus in the making of bolts and nuts for a machine, the pitch of the thread or number of turns per inch would vary from machine to machine according to the draftsman's fancy. Wooden beds are found varying in length by half-inch units from 6 to 7 feet, in width (for just one nominal width) from 4 feet 4 inches to 4 feet 8 inches. The imperative demands of the Great War, for greater pro-

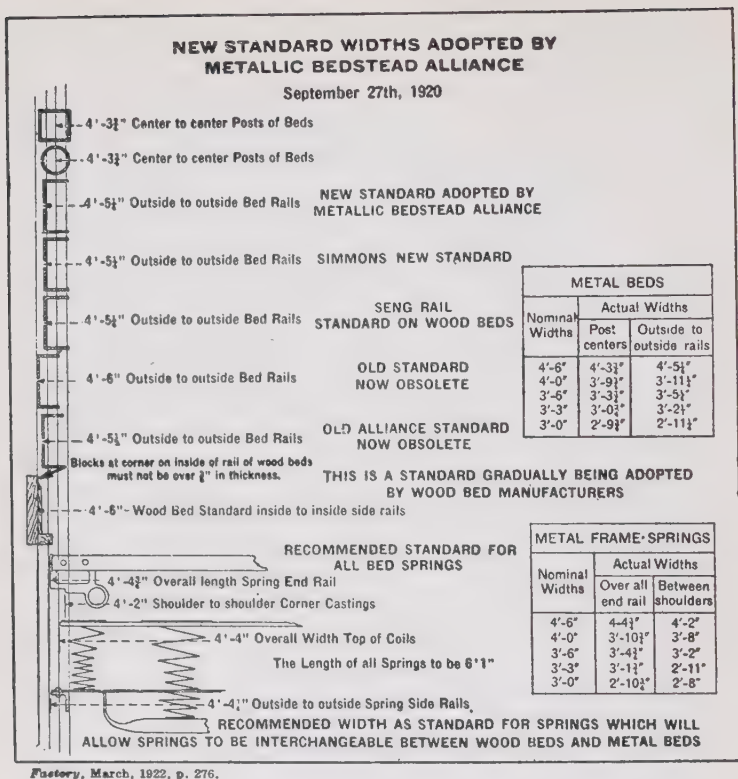


Figure 6: An example of standardization of sizes by an association.

duction and higher efficiency, focused attention on this waste, with the result that a movement for simplification and standardization is under way which has already had considerable results. Standard dimensions have been agreed upon by the manufacturers of fire and common brick, building tile, metal lath, beds, springs and mattresses, woven-wire fence, range boilers, files and rasps, bed blankets, hotel chinaware, milk bottles and milk-bottle caps. As an example of the extent of the reduction of models, simplification in the woven wire fence business reduced varieties from 552 to 69, styles and sizes of packages from 2,072 to 138.

Much of this simplification is without any prejudice to the natural desire for individuality and variety. The fact that a bed is standard in size and will take a stock size of spring and mattress has no effect on the design or finish which the manufacturer may consider attractive.

PLANNING

Analytical study and standardization provide the foundation on which plans may be made for current operations. The great task in all planning is the elimination of chance by the substitution of knowledge for guesses. The setting of standards of practice, the observation and measurement of capacity for output, the recording of experience as to expected costs, sales volumes, and so on, provides the management with facts which reduce uncertainties and permit the foreseeing and avoidance of many hazards.

Conceiving and carrying to accomplishment any purpose or decision involves, in general, three steps, each of which must be adequately attended to if effectiveness is to be obtained. Of these the first is the *securing of information*, its digestion and preparation so that it correctly presents, as far as possible, the facts necessary for decision. The second step is *decision*, and it involves the weighing of all relevant facts and a choice, the making of a plan. It is usually the least tangible and the most important step in the cycle of performance. The third step is *execution* or performance. Where the same man both plans and performs, this step requires little mechanism beyond the habit of action. Where, as in most organizations, one man plans and another performs, the step of execution must be further subdivided. There must be first the dispatching of the decision. The executive lays out a plan calling for a consecutive series of actions. Each of these, at the proper time, must be initiated by the dispatch or issuance of a suitable order. Frequently dispatching is made semi-automatic, as where orders are entered at the proper dates in a calendar which serves as

a standing order for the period. Following dispatching comes actual *performance*. To make sure that performance has been accomplished, and correctly, there must be a final step of *inspection* or follow-up, which, incidentally, supplies the information necessary for the next cycle of planning.

For the steps of gathering information, decision, dispatching, performance and follow-up, the executive needs, first, the scientific attitude and the openness of mind of the investigator, but he needs also to know the moment for decision and to be prepared to act, at times, on decisions made only on the basis of whatever facts are available up to that moment. Decision is the kernel of the task of planning; all the others may to an extent be resolved into aids and mechanisms.

The efficient use of the executive's time requires that the task of dispatching and follow-up be taken off his shoulders as far as possible by mechanisms. His is the will which lies behind the mechanism and provides the energy that moves it. But the actual detail of giving the order and of reporting on its completion may be handed over to the subordinate or to an automatic device. Those who receive the orders know that the giver of the order will know if it is not well fulfilled; that is enough. More detailed description of actual systems of planning will be given in later chapters on production.

RECORDS

In the small business much of the information necessary for correct planning comes first-hand to the executive and he can rely to a large degree on memory and judgment to aid in decision. As the organization grows larger, this becomes impossible, and there must be added to the operating and executive departments a more or less highly organized service whose function is the making of records and their digestion and preparation in order to put clearly before the executive accurate and organized information as a basis for decision. The selling end of one great and successful busi-

ness has nearly as many people making records as it has selling. It deals with numerous small customers, each of whom must be continuously followed up to make sure that his credit continues good and that he pays promptly, that he is called on by salesmen often and effectively, that he is being sold the right goods. There must also be an organized study that will quickly show the effects of competing drives in any territory, that will seize upon and utilize opportunities for obtaining local publicity for the product, that will gauge the effectiveness of advertising appeals and the productivity of individual salesmen. The company employs a crew of demonstrators who systematically tour the country, demonstrating to housewives the merits of the product and telling them which grocers can supply it. This activity must be tied in with selling plans for the territory covered.

To the old type of executive, impulsive, relying on "hunches," the reliance of the modern executive on facts and records must seem cold-blooded and hampering. But in a day of close margins it is the only way in which a business may hope to survive.

Of these records, those furnished by the accounting department are in general the most extensive and important. Through centuries of use, accountants have developed a definite and largely standardized system of gathering and presenting facts, which may be made to give information on almost any phase of the activities of a business, whether it be the performance of individual workmen or salesmen or executives, or the effect of a change in policy, on sales, or on the profit on an article, or on the total profits on operations. It is important, therefore, to the executive that he shall understand the language of accounts and know how to use effectively this important tool of management.

IV

ORGANIZATION

The problem of structure. The organization of ownership. The executive function. Proportioning the organization to the task. The classification of duties. Functionalization. The staff. Functionalized planning. Coordination. The executive. Leadership.

THE previous chapter was devoted to the discussion and description of a general method of approach to business problems, the method of science in business. As distinguished from scientific method, a science may be defined as an organized body of knowledge of a subject. In this sense there may be said to be a science of organization, for experience has developed certain principles of action and of structure which are of general value in effectively organizing a business or other activity. From these principles, consciously or unconsciously applied, is derived the art or practice of business organization and administration.

The business as an organization presents, first of all, a problem of structure. This problem is very simple or non-existent in the small, one-man business, where the proprietor makes, sells, plans, keeps accounts—performs, in short, all the functions described in Chapter II, so far as it is necessary or possible to perform them. But as the business grows beyond his personal and financial capacity, a problem of organization develops more or less simultaneously in two directions. As the ownership interest becomes a partnership or corporate interest, a means must be found for focusing into a single harmonious policy the wishes of these various part owners. As it becomes necessary to delegate action to hired employees, a problem arises in organizing the relationships of these employees to the owner-directors and to each other to permit of effective action.

THE ORGANIZATION OF OWNERSHIP

As mentioned in Chapter I, the law has given a great deal of attention to the development of organization forms which seemed best suited to carrying out the type of continuing contractual relationship necessary in any form of partnership or joint activity. As a consequence, the various ownership organization types, which will be described in a succeeding chapter, have become well standardized in general plan. Essentially, the partnership or corporate relationship is a modified form of the bargaining relation, requiring, usually, some degree of compromise for its successful continuance. Thus the interests of the preferred stockholders, whose dividends are limited to a fixed percentage, are best served by regularity of dividends. At times this interest comes into sharp conflict with the interest of the common stockholders, who might wish to accumulate a surplus by withholding dividends for a period, in order to increase the ultimate earning capacity of the business. The various regulations governing the rights and duties of the various classes of stockholders represent an attempt to secure an equitable adjustment and protection in such cases.

In the same general class of ownership, or as Church calls them, determinative bodies, comes another type of organization that has been quite widely used of recent years—the various types of works councils and collective bargaining arrangements by which the wishes of employees find expression and machinery for equitable negotiation with the ownership interests. Under the old legal concept, the employee had no interest in the business or right to dictate the methods of the employer even where he considered these methods inimical to his interests. If not satisfied, he was free to seek new employment. Sensible employers, of course, have in all periods seen that it was to their interests not unnecessarily to make work irksome and disagreeable and have been influenced to a degree of consideration of known wishes of their men. Large-scale employment made

it difficult to ascertain such wishes of employees without some organized machinery such as the works council, in which representatives of management and men meet on equal terms for the consideration of questions of mutual interest such as wages, hours, and working conditions.

All of these ownership and determinative organizations will be found to bear striking analogies to governmental organization, for the same problem is at the bottom of all, the problem of harmonizing individual interests to make possible a common course of action.

One of the problems of governmental organization is the basis of representation and the protection of minorities. In our government the basis of representation is that of universal adult citizen suffrage. The minority interests of the smaller states are protected by the dual representation in house and senate on a per capita, and a state, basis respectively. In the corporation the basis of representation is on the basis of property interest. What should it be between employee and employer? Some further illustration of this problem will be given in succeeding chapters. Provision for the protection of minorities is generally limited in the corporation, except in the case of fraud or abuse of powers. In the works council it is often quite fully worked out.

The functions of government are generally divided into the legislative, judicial, and executive, the division serving to give the usual advantages of specialization, and also serving to make each branch a check on aggressions or errors of judgment of the other branches. The type of organization suitable for the legislative function is not that best adapted for the judicial or the executive. For legislation, for decisions of policy, the proper organization is one which permits an expression of all interests, and provides opportunity for deliberation and discussion. The committee form is well adapted to the formulation of policies because of the opportunity it gives for the canvassing and the harmonizing of opinions, and because of its special advantage, by bringing out a variety of opinions and experience, to avoid the

danger of overlooking vital factors by too hasty or one-sided decision.

The judiciary has the function of interpreting the decisions of the legislature, of harmonizing, organizing, and applying the collectively expressed will in specific cases.

Because of the much greater concentration of control which exists in the corporation than in the government, both legislative and judicial functions are present only in simple or rudimentary form. The stockholders' meeting and the board of directors represent the legislative function, and usually there is only incidental provision, by appeal to these same bodies, for any exercise of the judicial function. In the works council, however, there has proved to be a place for a much more extensive use of these two functions. There is material here for an interesting study, not, however, in place in this book.

THE EXECUTIVE FUNCTION

Decision requires deliberation, representation of all interests and voices. Action requires a clear-cut fixing of responsibility, definite lines of authority which make for promptness and certainty of performance. The immemorial device for execution of the group decision is therefore the centering of the whole responsibility for performance in one executive. He alone is responsible, and within the instructions given by the legislature and subject to the interpretations of the judiciary, he has full authority to secure results as he deems best.

His capacity is enlarged to the adequate meeting of the task, by the delegation of parts of this authority to subordinates. Each of them, however, is fully and solely responsible to the superior. There results from the application of this principle an arrangement similar in its effects to the nervous system of the human body. Corresponding with the cerebrum or conscious brain is here the legislature or the board of directors. Corresponding to the cerebellum is

the executive, and from the executive, branch, by successive subdivisions, the trunk nerves and secondary ganglia centers of the department manager, the section head, down to the final group supervisor, who energizes those who may be called the muscles of the organization, the man at the bench, the salesman, the clerk. As there is a similarity, there is also a difference, for workmen and salesmen are not mere muscles, nor are detail executives mere telegraph lines. Each has some share, proportional to his authority, in interpreting and elaborating the policy decisions of the owners into a specific applied and detailed plan of action. The downward impulse to action from brain to muscle is represented in the business by orders, the upward current of sense impressions, by reports.

In theory, the subordinate is responsible exclusively to the superior, and in practice it is not advisable to depart too widely from this arrangement. Men have by tradition and instinct come to look to one leader for their guidance. But in many cases some short-cutting and modification of this pure line type of organization speeds up operations. Theoretically, if the planning department wants to give an order to a workman, it must go to the common superior, say the superintendent, and be relayed by him down through successive foremen to the man. Practically, for routine and non-controversial matters and within defined spheres of authority, the mutual superior, in effect, says, "Whatever the planning department says, has my approval," and the order goes direct to the man.

As an organization becomes more elaborate, it is often found necessary for a man to report or to be responsible to more than one man. Thus the accounting department is required to furnish certain types of information, on request, to the credit department and to others. The maintenance of such dual relationships requires a greater degree of organization experience and is less stable than the one-man relationship. It is permissible with experienced organization men, but should be avoided in handling the rank and file.

PROPORTIONING THE ORGANIZATION TO THE TASK

During the war it was necessary to expand the Wright-Martin Aircraft Corporation of New Brunswick and Long Island from a moderate-sized business manufacturing automobile motors, to an organization of 5,000 men making two types of Hispanio-Suiza aeroplane motors. The company had, of course, had experience in the general requirements of motor manufacture. Competent consulting engineers were called on for additional advice, and a plan of organization was drawn up, embodying an engineering department, a tool designing and tool storage department, a production department (including stores control and scheduling), an inspection department, an operating department (including the requisite workmen and supervisors), a purchasing department, an employment department, an accounting and office department, and the general executive department. The company expected for the next two years to be working solely on a single very large, definite government order. It started from the product, analyzing it and determining the amount of materials needed, the operations to be performed and the number of machines and workmen required. From the workmen, on the basis of unit figures from previous experience, the number of supervisors was worked out, the number of clerks, storekeepers, time keepers, and so on. An employment department unit was organized to take care of the expected 5,000 men, and a training school started, also working on a schedule, to furnish the crews needed for the preliminary and later operations. A building of suitable size was requisitioned and placed at the service of the business, and each day, as one went up the elevator, he would see some development proceeding according to the plan. First came the office, planning, and purchasing departments. By the time these were well under way the tool and storage and receiving departments were under way. With material coming in and machines installed, the originating, unit part, and productive departments were

started, to be followed finally by the assembling sections.

It is, of course, unusual to be able to start a business full-fledged like this, and, as might be expected, there were many minor adjustments to be made, although the organization did function, and rapidly. Ordinarily, the organization grows by gradual steps, a man here, a new department there, and the adjustment of employee capacity can be made sufficiently well on a trial-and-error basis. But in planning for future growth, in building offices and factories, it is well to look ahead and compute some estimate of future needs on approximate unit figures of floor space and men required for a particular activity. From time to time also, such standards of capacity may be applied to see whether a department is becoming topheavy or undermanned.

THE CLASSIFICATION OF DUTIES

Classification was defined as a grouping of facts on some basis of likeness, the key to correct classification being the selection of the right basis. In dividing the duties of the organization, much greater effectiveness can be obtained if a pretty clear idea is had as to what should be the basis on which duties are divided and men grouped into departments.

One classification of duties is on the basis of importance, since obviously the attention of the executive should be concentrated on the matters of greatest importance. Here the rule is that policy matters, general decisions affecting whole classes of situations should be made by the higher executive, detail decisions, by the lower.

Difficulty is also a useful basis for classifying duties. A decision, even though involving large amounts of money, may be so simple that it may be safely left to the subordinate. In the small or medium-sized business there is often not enough work of purely executive character to require the full time of the executive, and it may be an economy for him to give part of his time to secondary or even semiroutine work such as buying, for which his previous experience fits

him. But in the large business it is usually advisable to free the executive wholly from detail, leaving his mind clear for planning, for new ideas, or for the meeting of emergencies beyond the capacity of the subordinates.

FUNCTIONALIZATION

Another important classification from the standpoint of organization structure is on the basis of function. To what degree and along what lines shall the idea of specialization, already mentioned, be applied? Sometimes a relatively unspecialized organization is most effective, work being divided on a geographical rather than a functional basis. On a repair job the best results are often secured by handing it over to one man rather than breaking it up among several, each of whom has to spend a certain amount of time in getting the idea of what is wanted, clear in his mind. Wherever a task can be broken up into a routine which is repeated over and over, it is usually profitable to specialize and functionalize to a high degree, since such a division of the duties brings a volume of work of one kind to one department or individual, making it possible to separate the task according to skill, giving parts of it to unskilled and cheaper men, and using the skilled men only for a small part of the total task. The advantage of the habit skill acquired when doing only one kind of work is also great.

The two alternative plans of dividing work are well illustrated in the case of assembling motors. Where a variety of automobile motors are to be assembled, only a few of one type, two men are usually given the requisite parts, tools, and stand, and they assemble the motor complete. There may be 50 such crews at work side by side, each doing substantially the same work. If the same factory concentrated on a single type of motor, the same hundred men (or a smaller number capable of producing the same output under the new system) would be arranged along a long assembly line, with a moving conveyor which would carry

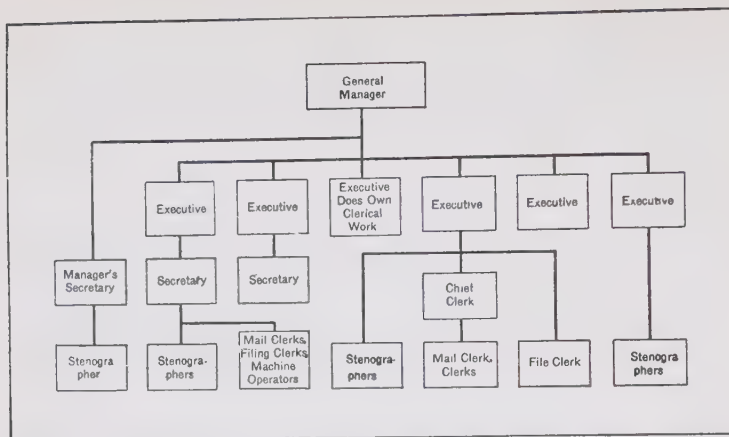


Figure 7: Divisional, or decentralized, type of organization for handling office work.

the motor slowly past each man in the line. Each of the men would perform but a single operation on the motor. One perhaps would lay down the crankcase, the next man would lay the crankshaft in bearings previously attached to the case. The next might attach the timing gears, and so on to completion and test. An assembly line for making flatirons is shown in Figure 25, pages 331-332. Notice the conveyer with special attachments to hold the irons.

Another illustration showing the difference in the two plans of duty classification is found in the office, where it is possible either to supply each executive with a stenographer-secretary who takes care of the variety of dictation, typing, making of appointments, and so forth, needed by the executive, or to have all of this work concentrated in a single central stenographic department, where it may be subdivided and distributed among typists, stenographers, mailing clerks, and others, as advisable.

Generally speaking, the functional plan of organization shows the greatest advantage where there is a volume of routine work. Here the skill of the specialist counts for most. Where emergencies must be met, where routine is

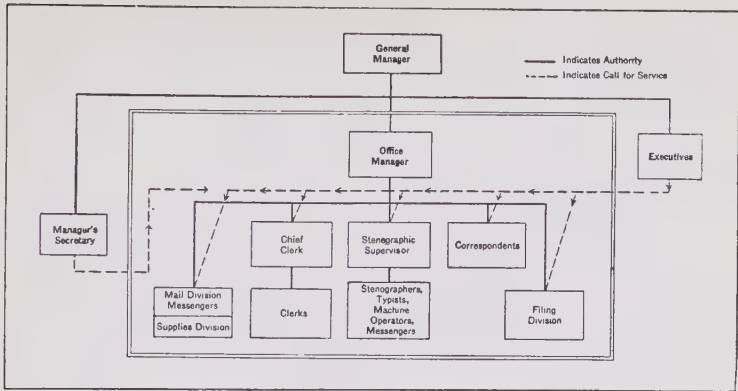


Figure 8: Functionalized and centralized clerical work.

impossible, the all-round man is apt to get better and often cheaper results.

THE STAFF

Two special classifications along functional lines are of particular interest in organization. One is the division made by Harrington Emerson, following somewhat the lines of the army organization, into line and staff duties. The line man is the man who gives, transmits, and executes orders, makes decisions and carries on the actual work of operation. By the necessities of a busy life the line man has little time for reflection; therefore, we are apt to find that in an organization composed solely of men of line type, there is prompt action, but little progressive thinking. The organization is strong in the face of accustomed situations, weak in the face of new or changing conditions. The staff is added to balance this weakness of the line. It is composed of advisory departments or individuals, who are relieved of routine duties and are free to devote their energies to investigation, to study and planning. Sometimes the staff function is performed by a committee composed of line officials, as the policy committee shown in Figure 3. The chief executive in a well-balanced organization really com-

bines the two functions of reflection and investigation, and decision, although he may well have a special advisory staff or assistant to help him run down the leads that may come to him.

FUNCTIONALIZED PLANNING

A second separation, made by F. W. Taylor, is as between planning and performance. Taylor was the first to point out the great gain which resulted from this special form of functionalization. In the modern organization one of the important functions of the administrative departments is to keep the road clear for production, to see that work, tools, and materials are all planned for and provided in advance, so that the workman can give his full energies to uninterrupted, straight-away production.

COORDINATION

The Harding administration, whatever else it may or may not have done, left behind it one great achievement, an operating national budget. Our government already had, in its various Departments of the Interior, of War, of Agriculture, and so on, an effective functional organization for carrying on the national business. But this organization was needlessly expensive and unbalanced because of the custom of permitting each department to submit its department budget of estimated requirements independently to congress for authorization. The departmental demands coming up for action thus, at various occasions, could only with difficulty be reconciled into a harmonious general program. Each department secretary, with a proper enthusiasm for the work of his department, asked all he thought he could possibly get for carrying on that great work, just as sometimes university professors assign lessons on the bland assumption that the student has no others to prepare. There was needed for the control of our national expenditures some agency which could coordinate the needs of each

department into a single program, which could subordinate the departmental view-point to that of the executive.

In the private business there is the same need for coordination. Department heads in business, as in government, tend to lose their perspective, to forget the relation of the part to the whole. And there are other inevitable forces making for disintegration and disorder—indifference, ignorance and lack of understanding, personal ambitions or animosities.

One great instrument of coordination is *system*, an orderly outline of procedure which makes it possible for perfectly effective work to be done by men who may have no comprehension of why they are doing it, and which holds the activities of all in an ordained and orderly relationship to each other.

Another is *instruction*. For the higher types of action in which rote performance is not adequate, that executive is wise who keeps his men in constant touch with his plans and purposes, with all developments which will aid the man in making his decisions harmonize with the plans of the house.

THE EXECUTIVE

The successful combination of all the various activities mentioned in this chapter is no trifling task. Minds are seldom found with the capacity for assimilating equally well the varied techniques of selling, of engineering, of accounting, law, labor management, and the numerous other phases of business. The executive is the coordinator, the lens which, taking the blue light of the credit department, the red light of sales, the yellow of finance, combines and fuses them into the white light of the executive view-point. The executive also supplies the initiative of the organization, steps out of the routine to embrace the new opportunity or senses approaching disaster. He is also the leader. Men look to him for encouragement in critical times, for recognition of good work, for discriminating appraisal.

It is a job not learned in a day. Distinguishing between the detail executive, who simply passes on orders and in whom energy, training, and a limited amount of judgment are the important qualifications, and the general executive, the importance of maturity of judgment and adequate experience in the latter, is evident. There is, too, a special technique to be learned. The executive must understand Ripley's three arts, of organizing, deputizing, supervising. He must learn to economize his efforts and multiply them by organization, to functionalize his work and leave the details to efficient secretaries and assistants. He must acquire the patience which lets the subordinate learn, for himself, what the executive could do in less time than it takes to teach it. Thus only can his unique quality, the experience and training and type of mind necessary to the making of workable plans and correct decisions, be made fully effective in the business. Sometimes we find a man, who is charged with systems, full of the sound and fury of an elaborate organization, but who does not seem to produce results. Such a one was Carlochan, the new superintendent. In one of his awe-inspiring visits of inspection of a hard-driven factory, Carlochan discovered in the receiving department a lot of miserable, disorderly little heaps of materials—here a dozen files paper-weighting a crumpled receiving ticket, here a wrench, here a tap or a set of gages. So, applying the great cult of system in all things, but not stopping to ask the reason for the disarray, the order went forth that by nightfall every paper was to be removed, every file and wrench and tool properly distributed in its own symbolized compartment of tool stores. And it was so done. And Carlochan and a force of imported system men spent the next month in trying to verify, for an exacting government inspector, the receipt of the hundreds of tools which the overloaded receiving department had been endeavoring to pass through the usual routine when the storm struck. Evidently executive ability is a thing of the spirit rather than of the letter that killeth.

LEADERSHIP

The first essential of leadership is knowing how. Men will follow a man of very neutral personality if it so happens that he has demonstrated to them that he best knows how to secure results desired by all. The effect of leadership, however, is greatly enhanced by a knowledge of how to secure the interest and cooperation of men, and by those powers of personality by which men may be influenced. Harking back again to our definition of business as a co-operative undertaking, it will be seen that one quality of leadership is the skill of the leader in making the undertaking serve the interests of all. Much of the quality of leadership rests on a conscious or unconscious knowledge of the instinctive and emotional springs of action, since men are more motivated by emotion and instinct than by reason. The elements of leadership will be considered in greater detail in the concluding chapters of this book.

V

THE ORGANIZATION OF OWNERSHIP

The problem of ownership organization. Individual proprietorship. Partnership. The joint-stock company. The corporation. Formation of the corporation. The holding company. Ownership in the corporation. The trust. Receiverships.

IN the business, as in the state, there is not only the need for organizing production, but a way must be found for reconciling the interests of the various participants in the undertaking, and of bringing to the focus of general executive consideration and action the collective purpose of the owners of the business. Where more than one person participates in a business undertaking, the familiar device of the contract or agreement is again made use of, to secure the carrying out of the agreed upon relationship on the part of all participants. A variety of arrangements are found, of which those in most common use in this country are the individual proprietorship, the partnership, the corporation, and variations of these forms. Certain other forms are used in special cases.

INDIVIDUAL PROPRIETORSHIP

The simplest type of private ownership is that of the individual proprietorship. A man saves up a little money, buys a few tools or a stock of goods, hires an employee or two, and starts in business. No question of the division of profits arises, no legal formalities are required beyond those usual in any transaction between individuals.

The proprietor is taxed as an individual. This type is the simplest of all forms of ownership and, in general, is the most effective in securing the maximum industry and

initiative of which the individual is capable. The business is his own and he has every incentive to effort. On the other hand, it is obviously limited in its size by the capacity of the individual to furnish funds and to direct operations. Liability for debts is unlimited in this form, the whole property of the individual, except certain small exemptions in the case of bankruptcy, being available for the satisfaction of the creditor if the proprietor fails to meet his obligations. Some very large businesses, such as the Wanamaker store, have been of this type, but it is, in the main, restricted to smaller businesses.

PARTNERSHIP

One of the limitations of the individual proprietorship is the fact that only one person has the incentive which comes from an ownership interest. Every one else is a hired employee, and it is difficult to hold ambitious men or to secure their fullest efforts in this capacity. Nearly every one cherishes somewhere a secret ambition to be his own master, to be consulted and to have a voice in the conduct of an undertaking. The partnership form of organization has the advantage of making it possible to attach as many individuals as desirable to the undertaking, by this powerful bond of self-interest and participation. Andrew Carnegie was quick to recognize the advantage of the partnership as a means of stimulating the fullest efforts of capable and ambitious young men by making them junior partners in his organization. Man after man passed through a partnership with Carnegie into a position of importance in the steel industry.

An early and simple form of the partnership was found in the Middle Ages. For example, a group of merchants, undertaking what is known as a *joint venture*, would charter a vessel between them and each would bring to the vessel his own stock of goods and travel with it to distant foreign parts. Here he would dispose of his goods to the best

advantage, independently of the others except for the common participation in the use of the facilities provided by the vessel. Dick Whittington, dear to the hearts of youth, was, according to the fable, raised to opulence by his fortunate participation in such a joint venture.

A somewhat similar type of temporary association for the carrying out of specific purposes is found in the present-day syndicate. Thus in the disposal of bonds or other securities it is a common thing for a group of banks or financial houses to agree among them to take each a certain proportion of the total issue. Each then proceeds to sell as much of his proportion of the issue as he can. If by a certain date he has not completed the sale of his allotment, he is obligated by the terms of the agreement to purchase the balance on his own account, disposing of it as best he may.

Where the partnership is to be of more permanent duration, it is highly desirable for the partners to enter upon written articles of agreement. Such articles should cover the following points:¹ The names of the partners; the name of the partnership; the nature of the business to be carried on; the duration of the partnership; the place of business; the contribution of each partner; in what form and at what time this contribution is to be made—whether money, property, or services; the value of the contribution in money if not made directly in money, and whether the object or its use is to be devoted to the partnership; the interest of each partner in the partnership; and the division of profits.

Where not otherwise specified, an equal division between partners is assumed by the law. An equitable plan of division, frequently used, allows to each partner interest at an agreed rate upon capital contribution, salary at an agreed rate, and an equal or agreed division of profits remaining. The liability for losses should be agreed upon. The duties of each partner, when profits shall be accounted for and the

¹Bays, A. W., *American Commercial Law Series*, Vol. IV., Callaghan and Company

limits to the drawing accounts of each partner, the method of keeping the partnership books, the right of the partner to retire where it is desired that this right may be exercised without dissolving the partnership and the method by which his interest shall be disposed of, the method of dividing the property and good-will in case of dissolution, the method for settling disputes, are also points of importance.

No legal formalities are required for the formation of a partnership, except in the case of a limited firm. The members are taxed as individuals and are liable as individuals for debts contracted by the partnership. Furthermore, each member is presumed, unless notice has been given otherwise, to have power to enter into contracts for the partnership. Such contracts are binding. This feature at times proves embarrassing in the case of an injudicious or unscrupulous partner. The unlimited liability of the partner is also a serious disadvantage, especially so in cases where a man of considerable property may lose heavily, although his holdings may not have been extensive in the partnership. Because of the personal nature of the partnership, and the fact that every partner except a silent partner is presumed by law to be active in the business, the partnership form is not as well adapted to the raising of new funds as is the corporation, in which the furnishing of capital and election of the active directors are the only necessary contribution of the stockholder to the enterprise.

At present the partnership is used principally in those businesses in which the principal assets of the business are the skill and ability of its members. The partnership is probably the predominant form of association among lawyers, architects, accountants, and other professional people. Semipartnerships are also common among doctors, dentists, and others, in which the cooperating parties jointly engage an office, hire attendants, arrange for telephones, laboratories, and so forth, for common use, the expense being prorated. The names of the doctors are also often bracketed as a firm name, the doctors take each other's practice dur-

ing illness or vacation, and schedule their office hours so that one is always in the office. Receipts from practice may be pooled and divided on an agreed basis, or retained partially or wholly by the individual participants.

The partnership has the advantage of being exempt from certain legal restrictions and requirements which may prove hampering with the corporation, and is therefore sometimes used by banks, by companies dealing in real estate, and in similar cases.

Several modifications of the simple partnership form are found. Where one of the partners is active and the other merely contributes, the latter may be known as the silent partner. In order to protect the silent partner, the partnership may be made a limited one. By filing notice with the secretary of state, and publication in a local paper for a specified number of insertions, notice is given to the public at large that the liability of one or more of the partners is limited to the amount of their original investment, thus affording these partners a protection against excessive loss in case of mismanagement on the part of other partners. There must always, according to law, be one partner at least whose liability is unlimited.

THE JOINT-STOCK COMPANY

The joint-stock company differs from the partnership in that the ownership is divided into a number of equal shares, as in the corporation, which are held by the partners according to their interest in the company. These shares are also, by the articles of agreement, transferable at will from one individual to another without dissolving the partnership. Liability of all except one partner is usually limited by the usual publication of notice and the holder of the share of a joint-stock company is in a position in many respects similar to that of a stockholder in a corporation. The form is, in fact, quite generally used in England as the corporation is used in the United States. In France and the Latin

countries also, a form similar to the joint-stock company, in general, serves in place of the American type of corporation.

THE CORPORATION

In the eyes of the law a corporation is regarded as an artificial entity, having, within limits prescribed by its charter and by statute, the power to transact business as an individual, to sue and be sued, to make contracts, and, in general, to carry on business as an individual might do. In the corporation, directors elected by the stockholders are the active and responsible heads of the business. Subject to wishes collectively expressed by the stockholders at the annual stockholders' meeting, they determine the policy of the company, elect a president, secretary, and treasurer and such other officers as may be necessary, authorize contracts, decide as to what dividends shall be paid, and, in general, are responsible for the management of the company. The stockholder individually has no power to contract for the corporation, or to take any part, except by majority vote in stockholders' meeting, in the management of the company. The individual stockholder is liable, for the debts of the company, only to the extent of his subscription to the capital stock. When that subscription is fully paid, he may, in case of mismanagement, lose his investment; but he cannot be held for further contribution to satisfy creditors of the company, with one or two exceptions, such as banks.

FORMATION OF THE CORPORATION

In early days corporations were created by special grant of the king or act of legislature, and there are still occasions where this procedure is followed. However, as the number of corporations increased, general legislation was provided which specified the conditions under which charters could be granted for corporate enterprises, and charters will be granted by the secretary of state to any group of

individuals whose application is in conformity with such general legislation. Usually some individual acts as a promoter, bringing together an idea or business opening and persons who will invest in the undertaking. The necessary capital having been determined and sufficient subscriptions to the capital stock obtained, application is made to the secretary of state for a charter. This application must state the name of the corporation; the names of the applicants or promoters; the amount and the classes of capital stock to be issued, and the amounts of the subscriptions; the purposes for which the corporation is formed; the life or duration of the corporation; and the location of the principal office. More than 50% of the capital stock must actually be subscribed for before the charter will be issued. The statement made in the application will be embodied in the charter and it is important that it shall include all of the activities in which it is expected the corporation will engage. The powers of the corporation are strictly limited to those authorized in its charter. If this application is approved, a charter is executed and an organization meeting is held. At this meeting all stockholders are present and a committee is appointed to draft by-laws, nominations are made and directors elected. The by-laws of the corporation will usually cover such matters as the method of calling and manner of conducting stockholders' meetings, with the time and place for doing so; the number of stockholders necessary for a quorum; the method of voting by proxy; the qualifications, duties, and methods of election of directors and officers, their compensation; the organization of standing committees of directors, and manner of conducting meetings of the board of directors.

The corporation has become the predominant form of ownership. It has the advantage of greater flexibility in ownership. Any one who desires to dispose of his holdings finds it more easy to do so than in the case of the partner. The limitation of liability is also a distinct advantage. The tendency has been, of late years, to impose many restric-

tions and special taxes on corporations which constituted a certain disadvantage. An annual report must be made to the secretary of state and a franchise tax paid on capital stock in most states. A tax on capital is at present imposed by the government, and the scale of taxes on income differs from that paid by individuals. While there are, however, certain disadvantages in the corporate form of organization in the case of taxes, the advantages seem, in general, to have outweighed them.

THE HOLDING COMPANY

Where permitted by its charter and not in conflict with the law, it is possible for one corporation to hold stock in others, and the holding company is a special type of corporation in which such ownership may constitute the primary or sole function. Such holding corporations may be formed for a variety of purposes. Thus, the American Telephone and Telegraph Company is a holding company formed for the purpose of uniting under one control the various Bell telephone properties, the constituent district operating companies, and the subsidiary corporations such as the Western Electric, which manufactures telephone equipment. In this case the parent company also carries on certain experimental and engineering activities for the whole system and handles the interconstituent business, such as long-distance tolls. The holding company may also provide a means of consolidating individual competing companies, allowing the original owners to retain stock in the constituent organizations, but securing a majority control which insures the carrying out of unified policies.

OWNERSHIP IN THE CORPORATION

Participation in the ownership of the corporation is on the basis of shares of stock of fixed equal value representing contributions to the capital of the company. Such shares

may be of several types. Common stock is that class of stock which, after the payment of all outstanding obligations of the company, including its obligations to preferred stockholders, participates equally in a division of the remaining profits of the company, whatever they may be. The voting power is also usually vested exclusively in the common stock. Preferred stock differs from common stock in that certain agreed preferences or priorities are granted to it as compared with common stock. These preferences may be of several types. Frequently, the agreement is that a fixed rate, say 8%, shall be paid to preferred stockholders from profits, if any, before any dividends are paid to common stock. There may be a preference as to assets, the agreement being that in case of dissolution of the company and distribution of its assets, the preferred stockholders shall receive back the full amount of the capital contribution before any distribution is made to the common stockholders.

Preferred stock is, in consideration of the lesser participation of the risks of the company, usually without the vote, although in some cases it is provided that if dividends are not earned or other agreed conditions are not maintained, the preferred stockholders shall, during the continuance of this condition, be given voting powers. In the case of cumulative preferred stock the agreement is that not only shall the stockholder have preference in the division of annual earnings, but that in case of a failure at any time to pay the stipulated dividend, the amount of the unpaid dividend shall constitute a claim on future profits to be paid before common dividends are again paid. Participating preferred stock is a type of stock in which the agreement is that a dividend of an agreed amount shall be paid first to preferred stockholders, then an equal dividend, if earned, to common stockholders, and, if any surplus still remains, that it shall be divided on an agreed ratio, as half to each, between the two classes. A convertible preferred stock is a type in which it is agreed that at the option of

the stockholder, or in certain designated contingencies, the stock may be exchanged for common stock or sometimes for bonds. Another provision, made at times, is that the company may pay up and retire preferred stock under agreed conditions as to price, time of retirement, and so forth.

The ordinary type of stock certificate represents a fixed unit value, commonly \$100 or \$1,000, contributed to the corporation's capital. Actually, the value of the stock fluctuates in accordance with the undivided earnings or the losses of the company, this value being reflected approximately in the market price of the stock as shown by exchange or other quotations of prices. Recognizing the fact that the par value quickly becomes a fiction, the tendency has been in many cases recently to use a type of stock in which no par value is specified, such stock simply representing a proportionate share in the ownership of the assets of the company and participation in the sharing of its profits. No-par stock possesses certain advantages of flexibility as compared with stock of fixed par value. Under the law, if stock is issued or sold originally for less than the par value, the stockholder may be at any time held liable for the difference between the amount paid and the par value. Frequently with issues of stock made after the initial formation of the company, especially where such issues represent refinancing to meet unfavorable business developments, it may be impossible to obtain full par value in selling the new issues. This difficulty is avoided by the no-par issue.

THE TRUST

It is frequently necessary to provide for the administration of estates or bequests left to minors or the property of persons for various reasons incapable of handling their own affairs to advantage. The law in such cases permits the property to be handed over in trust to a trustee, who administers it for the benefit of the minor, rendering an account

to the court by whom the trustee was appointed. Such a trusteeship may be assumed by an individual, a corporation, or other responsible entity. The trust company, while its function has been extended to include banking in many cases, was primarily a corporation formed thus to administer estates held in trust.

The trust form has proved itself useful in certain other connections. When a corporation incurs an obligation such as the issue of bonds, it usually undertakes the performance of certain conditions designed to safeguard the bondholder. Thus it may agree not to issue additional bonds, not to permit cash to fall below a certain minimum, and so on. These bonds are usually sold to scattered holders, who would not find it practicable individually to see that the conditions of the bond were enforced. It is customary, therefore, to name in the bond a trustee responsible for such supervision, and for taking action in case of default of any condition. A trust company is very commonly appointed for this purpose.

It is also possible to put the property of an association of individuals in trust, in the hands of trustees appointed by agreement of the participants in the undertaking. The *Massachusetts trust*, as it is called, is such an organization. Under this type the trustees serve permanently or for a specified period or until removed by death or for cause. The beneficiaries or participants in the undertaking are not liable for debts beyond the amount of the property held in trust, and the trustees themselves have a liability analogous, in general, to that of the directors of corporations, being personally liable only in case of an abuse of their authority. The Massachusetts trust has been used to a certain extent as a form of organization for business, because it is not a corporation, and as such is not subject to some of the taxes and regulations which have proved burdensome in the case of a corporation. This form has also proved useful for real estate and similar companies in some states where corporations are not permitted by law to deal in land.

Another modification of the trust idea is found in the *voting trust*, a form in which holders of stock in a corporation appoint trustees to serve for a designated period and for the carrying out of designated objects or policies. The stock of the company is turned over to these trustees, such holders receiving trust certificates as evidence of their ownership. The trustees are empowered to vote this stock as they see fit or within the limits of the trust agreement. Dividends are paid out by the trustees to holders of certificates exactly as if the trust certificates were shares of stock, the trust certificate constituting, in fact, a receipt for the stock. This form is used frequently in the reorganization of a business which has gotten into financial difficulties and where it is felt that the interests of all will be best protected by appointing a committee to manage the affairs of the business for a period.

RECEIVERSHIPS

A form of organization analogous to that of the trust is the receivership. Frequently a corporation which has gotten into serious financial difficulties may agree with its creditors to the appointment of a receiver, who is entrusted with the carrying out of a specified course of action for the benefit of the creditors and owners of the business. He may simply administer and carry on the business for an agreed period and under specified conditions, turning it back to the owners when it has been extracted from its difficulties. Or he may be called upon to liquidate the assets of the business, satisfying the creditors and distributing the remainder among the stockholders of the business. Such a trustee may be appointed by agreement of the interested parties. In the case of bankruptcy a receiver is sometimes appointed by the court, and a trustee is later elected by the creditors. This point is further discussed in Chapter XVI.

VI

COOPERATIVE ENTERPRISES

Profit and non-profit enterprises. Unincorporated associations. The corporation not for profit. Representation. Contribution of funds. Some typical cooperative activities—consumer's cooperatives. The cooperative marketing association. Trade associations. Chambers of commerce. Other trade and professional associations. Cooperation and social organization.

THE conventional forms of private ownership discussed in the previous chapter are in reality cooperative enterprises, except the one-man privately owned business. Even this forms a part of the economic fabric of society. Private enterprise in general is distinguished by one characteristic, it operates for a profit; that is, the individual undertakes the labor and assumes the risk of an undertaking in expectation of receiving, as his compensation, enough more than he expended, to repay him for these two contributions. A surprising volume of activities, economic or bordering on the economic in their character, are undertaken by groups of a non-profit character, and the activities of this sort are of increasing importance to the business man.

UNINCORPORATED ASSOCIATIONS

Various forms of organization are used as a vehicle for these non-profit activities. One of the simplest is the society or club, a voluntary association of individuals for any purpose—social, charitable, or otherwise. Membership is usually based on acceptance of the common purpose by the member, conformity to certain rules as to eligibility, and acceptance or election of the new member either specifically or automatically by the other members of the organization upon application and conformity. The usual officers, presi-

dent, secretary, and treasurer, are generally elected, together with the selection, by election or appointment, of such other committees, officers, delegates, and appointees as may suit the purposes of the society. Powers of representatives are strictly limited by the society's constitution, by-laws, motions, resolutions, and other expressions of the will of the majority of the society, or as determined by its own regulations. Such an association may authorize its officers or specific members to enter into contracts, to contract debts, hold property, and to undertake most other activities which would be proper to an individual. For such obligations, in the eye of the law, the membership would be collectively liable as in a partnership, with the possibility of obtaining satisfaction from those members able to pay, if part of the members were not proportionately responsible. Unlike the partnership, however, the member of the association is not presumed to have authority to contract for the association without authorization. One celebrated case involving the liability of an association was the Danbury Hatters' case, in which damages, awarded against a labor union in the hat trade, were assessed, and levied by execution against the property of several hundred members of the union.

Because of the frequent looseness and indefiniteness of the membership lists, because of the uncertainty as to the powers granted by the association to its representatives, and because of the common lack of realization of financial responsibility of its members, the unincorporated voluntary association is not a good form for doing business involving large financial considerations. Credit extended to it is usually on the basis of property owned by the association and attachable if need be for the satisfaction of debts, on specific guaranty of debts by a responsible representative dealt with, or on the basis of confidence in the soundness of the credit history and financial policy of the association. However, this form is often used for the transaction of considerable financial undertakings, as in the case of some farmers' cooperative organizations and of most labor unions.

The labor unions have so far been opposed to incorporation because of a fear that their activities might be restricted if they employed the incorporated form.

THE CORPORATION NOT FOR PROFIT

Where a non-profit activity involves any considerable or continuing need for the holding of property or entering into of contracts, a more effective form of organization is secured by incorporation. Application for a charter, stating name of the corporation, names of its incorporators, location of the office or address of the corporation, its purposes, life, and powers will be made much as in the case of the private corporation. It follows a similar plan of electing a board of directors or trustees which is authorized to contract and to act for the corporation. Property will be held in the name of the corporation and, in case of dissolution, will be liquidated and distributed *pro rata*, or according to by-laws, to the members. The non-profit corporation differs in several respects from the private corporation. The property of many such bodies, of a charitable, religious, educational or similar nature, such as churches, colleges, and charitable institutions, is usually exempt from taxation.

REPRESENTATION

One of the principal differences is in the representation of the interests of the members. In the private corporation this representation is usually strictly on an investment basis, each share of common stock having one vote, preferred stock usually being excluded, as mentioned in the last chapter. In the non-profit corporation this basis is rarely used, the vote being either on a per capita basis, or on some other basis of benefits received. One of the knotty problems in many non-profit corporations of an economic nature is the right proportioning and balancing of power so that neither will the large participators dominate the policy of the asso-

ciation nor will it be possible for a group of insignificant but troublesome small participators to combine and overrule the larger participators.

In the trade association, to be later described in more detail, the vote is usually on a per capita basis, one vote to each individual or firm in the active membership. In the consumers' cooperative, voting is also on a per capita basis. Wm. V. Cumberland¹ very clearly describes the activities of the California Fruit Growers Exchange, which will be used to illustrate one type of cooperative activity. In the local associations which are represented by this exchange, voting is on the basis of acreage on formal and important questions such as the election of the board of directors, while on the less important questions discussed in meeting, a *viva voce* vote is allowed to settle the question. This protects large growers from submitting their affairs to the unrestricted vote of the smaller growers whose interests may differ, while at the same time it preserves for the volume of small transactions an atmosphere of democracy and community nature which keeps the smaller growers satisfied.

CONTRIBUTION OF FUNDS

Another question of importance is the basis on which the members shall contribute the funds needed for the capital equipment and current operation of the enterprise, and the manner in which profits, if any, shall be returned to members. Occasionally stock is sold and dividends declared on stock as in a private corporation, although voting is usually not on the basis of stock held. But this plan tends to defeat the common purpose of the undertaking, since it concentrates interest on profit on the stock held. Contribution, of course, in the endowed or charitable institution, is in the nature of a gift, which the donor, in general, relinquishes with little or no restriction, and usually with no further claim to participation in the benefits of the gift. The cor-

¹Cumberland, W. V., *Cooperative Marketing*, Princeton University Press.

poration here, as, for example, a university corporation, is simply formed to hold and administer the property donated; its directors are the trustees appointed to administer funds according to the deeds of gift and the objects named in the charter.

In the trade union, membership is the basis of benefit and, therefore, contribution is in the form of per capita dues, and this is a very common basis on which to assess expenses. In the consumers' cooperative (the so-called Rochdale plan, previously mentioned), capital is raised by shares sold at a fixed price. The member is free to buy as many shares as he wishes, and 6% or an agreed rate is paid on these shares as interest. Voting, however, is on the per capita basis, and profits remaining after paying dividends on the stock are returned to the members *pro rata* to the amount of purchases made by the member during the period. In the fruit growers' exchanges a similar plan is often followed. In the California Fruit Growers Exchange the expenses of the association are met by an initial contribution and later assessments if necessary, on the basis of acreage, and by packing and brokerage charges against members on the basis of number of boxes of fruit handled. Profits remaining after meeting expenses are returned to members on the basis of number of boxes shipped. In this way there is no tendency for owners of large acreage of low productiveness, to seek to saddle the owners of more productive acreages with excessive brokerage and similar charges in order to show a dividend at the close of the year. The penalty, in fact, is placed, by this plan, on the less efficient acreage.

Where the relationships are at all important and involved, this adjustment of the basis of representation and participation in a group is always a serious question, often requiring quite elaborate adjustments, such as those found in the various classes of stock, or in the dual representation of the states in the United States Senate and House of Representatives, to effect a workable balance.

SOME TYPICAL COOPERATIVE ACTIVITIES—CONSUMER'S
COOPERATIVES

The general plan of the Rochdale Consumer's Cooperative Association has already been briefly discussed. One difficulty with cooperatives of this type is that the interest of the average consumer, in a cooperative grocery store, for example, is small, and, busy with other affairs, he cannot give to the management of the cooperative that intelligent attention which, as in democratic government, is necessary for success. A type which so far has proved better adapted to American needs is the association for financial purposes such as building and loan associations, cooperative savings banks, and the mutual insurance companies.

Shares of stock in building and loan associations are sold to members on a monthly instalment plan, really a systematic method of saving. From the capital thus accumulated, loans are made to members, mortgages on real estate or members' stock certificates being accepted as security. Money is also borrowed from members at slightly less than the rate at which it is loaned. A paid secretary and clerical staff and office are the principal expenses of the association. Return is secured by the members, on the maturity of the stock. It is at that time paid back in full, with the accumulated earnings, terminating the membership. The member is free at any time to make new subscriptions to stock. Directors serve without compensation except for the secretary, in most cases. Well-managed associations have performed a very useful service, earning for members usually a substantially better return than is usually paid by savings banks, and assisting many persons of moderate circumstances to finance the purchase of homes.

THE COOPERATIVE MARKETING ASSOCIATION

Agricultural products lend themselves with especial advantage to the cooperative plan of grading and mar-

keting, where the product is a specialty rather than a staple. On such products as wheat, beef, and the great staples, produced all over the world, it is next to impossible to exert substantial effect on the market by any feasible organization of farmers. But where the product is raised in one or a few limited, highly specialized localities, or where perishability or other factors limit its distribution, there are many benefits to be derived from cooperative marketing associations. Such organizations are therefore to be found very commonly, in such forms as cooperative creameries or milk-distributing associations, associations among the growers of grapes, apples, oranges and lemons, nuts, pears, potatoes, truck crops, certain breeds of blooded live stock, such as the Jersey and Holstein cow, and in similar situations. The association can undertake many activities for the common benefit which would be beyond the scope of any one member.

The farmer is in a peculiarly weak position to sell his crop unaided. He is isolated, his offering is often small and unimportant to the buyer, while to him it is his all; it is frequently perishable and must be sold promptly or lost. The farmer traditionally is not organized to finance or store a crop. He is traditionally, therefore, at the mercy of the commission merchant and broker—of the buyer. Also, without some organized agency, he has no uniform basis of standardizing quality, or of enforcing conformity with commercial grades. What one man calls first or even second grade, another may label fancy. Unscrupulous farmers will ship green or inferior fruit, apple barrels packed with a layer of fancy apples at each end and culls in the middle, and the whole locality and industry suffers a serious destruction of confidence and good-will as a result. Only an association is capable of establishing a brand such as the well-known "Sunkist" brand for citrus fruits and "Skookum" brand for apples, enforcing uniformity of grading and packing, and securing the cumulative benefits of advertising and of established confidence in reliability. The association also takes

the place of, or supplements, the grange as a forum for the discussion of farm technical and social problems, and a means for carrying out such other activities as cooperative purchasing or organized campaigns against plant pests and diseases.

The California Fruit Growers Association is an outstanding illustration of the possibilities of this type of cooperative business activity. The association, according to Cumberland, handles the marketing of 62% of the citrus fruits produced in California. It consists of three elements or stages. The first of these is the local association. It is generally incorporated as a non-profit corporation which issues certificates of membership to those owners of producing orchards, within its territorial range, who wish to join. An initial fee is charged on an acreage basis, which goes toward the financing of the necessary packing-house and equipment, and any deficits may be made good by an acreage assessment. The local association sells its fruit (usually to the second stage in the system, the district exchange), and remits to the grower minus a charge per box for packing and other expenses. A board of directors is elected on an acreage basis, which elects a foreman or manager for the local association, fixes the boundaries of the territory of the association, excludes, if necessary, the product of farms damaged by frost or blight, authorizes contracts, deals with the district exchange, and, in general, conducts business.

Membership is not transferable, except with a sale of the acreage on which it is based. Members may be excluded from the association if deemed necessary by the directors, upon the refund of the appraised value of the membership, based on the acreage and other contributions. Members may withdraw their crop from marketing by the association, on giving notice during the first two weeks in September, but otherwise bind themselves to a payment to the association of 25 cents for each box marketed otherwise than through the association. This provision is necessary in order to prevent defection and disorganization by some out-

side broker who might offer a few cents more per box. An annual meeting of members, open to the public, is held, at which full reports of results of operation and financial position are made, directors elected, policies discussed, improved methods of fighting disease and of cultivation presented, grievances adjusted, and general plans made for the coming year.

The picking of oranges can to some extent be controlled to come in any desired month, and the association, after rating with the grower his total expected crop, assigns him each month a quota which will be accepted for marketing, thus distributing the yield to much better advantage from the standpoint of marketing and of steady employment of packing facilities. For any particular pack or shipment, oranges or lemons from each grower are graded and recorded to his credit, and in each grade his fruit is pooled with other fruit of the same grade, the grower receiving a share of the total price received for the lot.

The next link in the chain is the district exchange. This is again a non-profit corporation, whose stock is owned by the local associations, and whose board of directors is composed of one representative elected from each local association. The district exchange acts simply as a broker, usually as an intermediate between the general fruit growers exchange and the local association; although it has the power to make sales to independent buyers as well. The exchange does not pool the shipments of the various associations but sells each lot direct and remits the proceeds.

The third and central section of the organization is a corporation known as the California Fruit Growers Exchange. Its stockholders are the district exchanges, its directors the elected representatives of these exchanges. Its activities are various and important, the principal of which is the making of contact between the district exchange and the buyer. The central exchange has agents in all principal markets, advertises extensively, and handles the matter of collections on the sales, which are all made on a cash basis.

It secures the information as to market conditions, on the basis of which, picking quotas are assigned. It is also the principal member of a protection league of citrus fruit growers which handles matters of public policy, such as suits to compel lower railroad rates, the securing of protective tariffs on fruits, emergency action to control plant pests, the securing of a department specially to study citrus fruits in the agricultural college of the state university, and similar activities of public interest to all growers.

The Fruit Growers Association also conducts, through subsidiary corporations, a box factory, a mutual insurance company, a cooperative purchasing agency for supplies, and a by-products company for the utilization of surplus fruits in making citric acid, and so on.

TRADE ASSOCIATIONS

Another cooperative activity of national importance is the trade association. It may or may not be incorporated, frequently the latter. It is composed typically of the manufacturers in a given trade, who fulfil the conditions of membership and are admitted upon application and election. E. H. Naylor¹ gives a good description of the organization and activities of the trade association, and lists some 820 associations, covering all localities of the United States, and all conceivable industries from iron and steel to greeting cards, from locomotives to carpet tacks, from incubators to burial caskets. The firm is the unit of membership, acting through a selected representative, and each firm usually has one vote irrespective of size. Dues and assessments are usually on a basis of a minimum assessment of, say \$50 or \$100 annually, with additional assessment on the basis of gross sales in dollars, yards, tons, or other unit, number of employees, or some similar measure of size over a fixed minimum. Members elect a board of directors and officers, including an executive secretary who is usually a paid offi-

¹*Trade Associations*, Ronald Press, New York.

cial who gives his full time to the activities of the association and is responsible in no small degree for its success.

The trade association serves its members in a variety of ways. One of the most important and commonly undertaken activities is the design of a uniform system for finding costs, and the education of association members in its use. The importance of such a system in eliminating ruinous, because ignorant, competition, is evident. For some time there was a question as to whether the use of uniform percentages and allowances to cover depreciation, and so forth, and the exchange of cost information did not constitute a conspiracy to fix prices in restraint of trade, but this practice has been recently ruled to be justifiable, as it, in fact, appears to be from the standpoint of practical public welfare.

The association also makes possible the working out of uniform standards for the product, which are of the greatest value in simplifying manufacture and marketing, in reducing expense and investment, and promoting interchangeability and quantity production. The United States Department of Commerce, through its Bureau of Simplified Practice, has taken the initiative in cooperating actively with the various associations in promoting this activity. Excellent examples of activities of this sort are furnished by the rules for grading lumber adopted by the various hardwood, pine, and other lumber associations; by the simplification of brick, tile, hardware, and various other product patterns from many to a few well-selected types; by the systems of rating new introductions of iris and peony flowers on a basis of merit, as a guide to purchasers; and by the adoption of uniform electric lamp socket and plug sizes.

Another typical association activity is collective advertising and sometimes marketing. Such familiar slogans as "Nothing takes the place of leather"; "Cypress, the wood eternal"; "Say it with flowers"; "You can do it better with gas"; "Save the surface and you save all" (paint), have been made familiar by the persistent and effective advertising of trade associations. Frequently, competition is not

only between producers of similar articles, but a competition of whole industries against substitutes, or against the pressure on the consumer's dollar of other expenditures. The leather manufacturers' slogan is obviously aimed at such substitutes as rubber, cloth, and similar fabrics which have come into general use in recent years. Such campaigns have not always been successful, but, where planned and executed in accordance with sound advertising principles, they have usually been very beneficial.

The association serves a very valuable purpose in acquainting competitors with each other and inducing a feeling of cooperation, a regard for the welfare of the trade as a whole, in members who were formerly frequently unscrupulous competitors. In this respect, probably a majority of associations still suffer from lack of discipline of their members, who hold loyally to agreed policies during good times when there is business for all, but whose weaker members often start a stampede of violations when conditions are less favorable.

The trade association numbers among the various other activities often undertaken by it, cooperative purchasing, collective negotiations with trade unions, research work for improving processes or products, the organization of bureaus for the exchange of credit information, publicity work for favorably influencing public opinion, improvement and formulation of trade ethics, standardization of trade terms, and a variety of similar activities. Exhibitions and trade shows are often arranged on the initiative of such associations or with their assistance.

The trade association possesses possibilities for the restraint of trade which have been the subject of some investigation by the federal authorities. Unquestionably some associations, by one device or another, do reach a substantial agreement as to the price to be set for their product, which has a monopoly effect. Several factors tend to reduce the seriousness of this danger. For one thing, while it is difficult to produce proof of conspiracy, flagrant abuses, if

proved, are amenable to the laws which govern individuals or private corporations. It is also difficult in a trade with many members, some of them not in the association, to prevent a stampede from a price out of line with the market. Some one is sure to see a profit and start cutting the agreed price to get business. Where there are only two or three manufacturers in a trade, this protection is less effective. A certain measure of cooperation in stabilizing prices is almost unavoidable and is probably, in the long run, of benefit to society by stabilizing the industry and preventing the degradation of quality inevitable with unrestricted price-cutting. The question is, as to how far it may go before public regulation or prohibition is needed. In Germany the trade association developed before the Great War into a very close-knit organization that was more like the joint venture or pool than like our American type. The German *cartel* was of this type, virtually a pool of manufacturers or merchants in a particular line such as dye-stuffs or chemicals. It was formed usually for the effective exploitation of foreign trade, and was often actively participated in by the government.

CHAMBERS OF COMMERCE

The trade association seeks to direct the cooperative activities of a group defined on trade lines. The chamber of commerce is the organized representative of all the business interests in a locality. Intermediate between these two, but operating along the lines of the chamber of commerce, are various merchants' and manufacturers' associations.

The chamber of commerce, like the trade association, may be a corporation or an unincorporated association. It also usually employs a paid executive secretary. It represents all the business interests in a town, or an affiliation of local chambers as in the National Chamber of Commerce. The work of the chamber of commerce secretary has become a distinct profession, for preparation in which a summer school is conducted in some of the larger universities. Repre-

senting the business interests, the chamber of commerce of any town or city usually interests itself in endeavoring to locate new industries and enterprises which will benefit the town, in organizing community celebrations and events, in securing better illumination of business streets, in negotiating with railroads and transportation agencies in securing better rates or service for the town, and in cooperating with other civic bodies in securing better schools, roads, and other agencies and elements in the community life. A special activity frequently undertaken is an exchange of credit information and an organized credit system for rating the retail buyers or residents of the town, thus eliminating the ancient and popular source of livelihood of those who move every month and whose stock in trade is that nobody knows them yet. For such, they are asked for a reference in the last town they lived in, and the chamber of commerce of that town usually can supply a record which prevents any but cash transactions in the new neighborhood.

OTHER TRADE AND PROFESSIONAL ASSOCIATIONS

The National Association of Credit Men illustrates a grouping along another line, in this case semiprofessional. In addition to discussion of the general problem and technique of credit management, it has a well-organized service for the exchange of credit information, supplementing, in this respect, the work of the mercantile agencies, to which reference will be made later.

There are similar associations of purchasing agents, of general and cost accountants, and of other business and professional men. A step further toward the professional type brings us to the engineering and learned societies.

COOPERATION AND SOCIAL ORGANIZATION

We have touched on only a few of the multifarious examples of non-profit economic activities. Many others could

be studied with interest—the labor union, the church, the endowed school, the secret fraternal society or lodge, the endowed charity or “foundation,” the various leagues for the furtherance of causes good and evil, the government-owned or controlled corporation such as the Federal Reserve banks or the United States Shipping Board, the municipal corporation, and hundreds of other types of association, with objects productive, regulatory, or purely consumptive and pleasurable. Wherever some situation transcends individual powers, affects a group in like fashion, there comes spontaneously from some one the initiative to organize. It is another evidence of the strength of the gregarious instinct as a force to be reckoned with in developing a collective organization and a social conscience. A little examination will show the extent to which the pure element of sociability, of acquaintance, of pleasure in being in the herd, among friends, is an element in the success of all such undertakings. The association executive secretary, the group leader, must first of all be a good mixer. The writer intended to mention, and overlooked in the press of many organizations, the Rotary, Kiwanis, Lions, Executives’ and various other luncheon clubs, partly professional, partly civic, but mainly an expression of the urge for fellowship with men of like interests and habits.

Perhaps in this native flair for organization lies one of our strongest hopes for the better and saner organization of society. There are few who do not recognize the wastes and the cruelties of the competitive system as well as its benefits. Shutting one’s eyes to unpleasant facts, or assuming that because a particular reformer is strongly altruistic and hates bloodshed, every one else shares his tastes, does not lead to constructive measures of improvement. There is, in fact, no panacea. But in so far as education and group suggestion lead to improvement, the most fruitful path of progress seems not to lie along the lines of suppressing self-interest, which is the strongest of the instincts, but rather of directing its energies through the channels of group organ-

ization, with the resultant strengthening of the bonds of the gregarious instinct and of a social conscience.

Our big businesses—the much feared “trusts” of an earlier day—seem generally to have gained a clearer insight into the relation between morals and good business. Certainly they are not yet all above “putting the screws” on a competitor, or driving a sharp bargain, on occasion, but most of them do give substantial proof, in both word and deed, of a recognition that only in real service, sustained quality, and dependability, lies any basis for permanent success. Such companies as the United States Steel Corporation, the International Harvester Company, the American Telephone and Telegraph Company, and many like them, show today a substantial appreciation of their responsibility as public servants and a realization of the fact that substantial service is the basis of profit.

VII

OPPORTUNITY IN BUSINESS

Finding a business opportunity. Chance. The individual and opportunity. Some types of occupation. The requirements of the job. The market for abilities. Going into business. The nature of profit. Unbalanced supply and demand. Superior methods. The new field of opportunity.

IN several cases the writer has come in contact with men who were making a systematic canvass for an opening in business, and it was surprising to observe the difficulty which they experienced in making a connection with a really desirable opening. The question of opportunity is likely to engage the attention of the younger man ready to enter business, and also often of the older man who finds himself in an occupation for which he is not fitted, or whose occupation is terminated by some change in conditions. A picturesque example of the latter case was the retirement from the harness business in Evanston, about a year ago, of the last harness-maker in that town who, after some 30 years or more at one stand, found his trade had disappeared and switched to the automobile supply business.

The question of opportunity comes up thus in the search for an opening and it must also be considered in deciding whether a particular proposal for a business undertaking possesses the elements of opportunity.

CHANCE

It must not be denied that there is in opportunity an element of chance as well as of judgment and skill. A junk buyer bought on a shoestring a second-rate store in one of the many minor business districts in Chicago. Two years later it was decided to move part of the commission house

district from South Water Street to Racine Avenue, and before he had it paid for, the dealer sold the store for treble its cost. The sudden importance given to accounting by the federal income tax laws lifted more than one accountant, who at that time had the right combination of technical preparation and of business judgment, into quick affluence. Every little while we hear a new story of sheer spectacular luck in business—of the discovery of oil on unpromising farms, of real estate developments which bring wealth to those accidentally brought within the circle of the development. Unfortunately, were failures as interesting reading as successes, we would often hear other stories of enterprises which had every reasonable expectation of success, brought to failure by quite unforeseeable catastrophes, singly or in a long succession of unfavorable breaks of luck.

Chance, however, in this world of inexorable relationship between cause and effect, is only another name for ignorance. Often the ignorance is quite unavoidable in view of the finite capacity of the human mind. Poincaré, in *Science and Method*, illustrates the nature of chance by discussing the possible effects on the course of history of the fall of a piece of tile from a roof, which might happen to strike and kill some potential great leader, statesman, or general. Here there was indeed no chance, in an ultimate sense. The fall of the slate, the exact moment of its striking, the coincidence of the fall with the passing of the statesman, were each but the inevitable and natural working out of laws, which to an all-seeing mind could have been predicted with all the exactitude of an eclipse. But in view of the manifest human impossibility of knowing all the possible remote determinant influences in a business situation, it is no wonder that the business man often has in him something of the gambler, that he is often impatient of the tedious exactitude of the scientist. Why, he asks, bother with the fourth decimal place in estimating the material costs in making a bid, when the price may change 20% before the deal can be closed? And indeed, he is often right. Decisions often

will not wait the last refinement of research, something must be left to chance.

But chance itself is subject to mathematical analysis of probabilities, and it is possible, recognizing the inescapable element of chance in every business venture, yet to make the odds as great as possible in favor of a successful issue. Every increase of knowledge diminishes the element of chance. To the small and uninformed speculator the buying of May wheat is a gamble pure and simple, and a gamble in which the commission which must be paid puts the odds against him. For this kind of buying a rabbit's foot is perhaps the best equipment. For the buyer, however, who has an information service covering the world, who knows the amount of stored wheat on hand, who is informed of developments and conditions which will affect the demand, who knows the acreage and the condition in each of the principal producing countries, the element of chance has to a considerable degree disappeared. And various methods of reducing risk by distributing it, by providing reserves, and so on, may be used, still further to minimize the chance of loss. These will be referred to again.

In the choice of a business or an occupation this element of chance also enters, but the chances are also in favor of the best-informed individual. Could one but stand off and see the whole economic situation, the shortage in this line, the excessive competition in that, the opportunity for a dry-goods store in this town, for a doctor in that one, the decision would be much easier. Something of the sort was for a short period accomplished by the Federal Employment Bureau, which by means of a national system of clearance of demands for men and for positions, attempted to systematically connect workmen with one type of business opportunity—the job. Some of the states still maintain services of this sort. The plan was launched, however, in the hysteria of the post-war boom, and mistakes were made. It was felt that the system tended toward a dangerous centralization of power, which was not used with due discretion

and impartiality, and the plan was given up under the strongly unfavorable comment of employers. In most lines the individual must still make his own survey, although he can bring to his aid certain agencies of information such as various private employment bureaus and the bureaus of employment maintained by several states.

During the war, the allied control of shipping and of production showed the possibilities of a comprehensive and comparatively exact service of information and control, in regulating the application of the productive forces of a large part of the world. Records were kept, for example, showing the location and tonnage of all shipping in every port controlled. Demands for tonnage between countries, for the moving of troops, of foodstuffs, of ammunitions, of other cargoes, were estimated and the ships moved here and there as needed. If a vessel was destroyed, another, idle, or taken more often from the least important of other uses, was diverted to take its place. With the passing of the cohesive force of a great emergency and the winning of the war, this agency was terminated.

It is possible to conceive of a society in which there was an approximation to some such organized application of productive forces in necessary fields. Such a control would possess some serious and at present probably insurmountable difficulties. Such centralization implies a power over human destinies which we are hardly ready to entrust to any individual or group of individuals. It implies a knowledge of the tastes and capacities of the individual, both as a producer and a consumer, which we do not yet possess. We must probably rely for some time to come on the process of trial and error to adjust the individual as effectively as possible to the economic structure.

THE INDIVIDUAL AND OPPORTUNITY

At the risk of digressing slightly from the chosen topic of business organization, it seems worth while to look for a

moment at some of the questions to be considered in the adjustment of the individual to the general economic organization. It is of interest both to intending employee and to the employer, and the study of opportunity lends itself to somewhat the same analysis as does the study of the launching of a business. It is, in fact, but the launching of a smaller, one-man undertaking.

Three factors go to make opportunity for the individual. First come his purposes and desires—the things he seeks an opportunity to obtain and fulfil. Second come his capacities. Third comes the market, actual or potential, for these capacities. And to these might be added a fourth—the making of a connection of capacity with this market.

Mistakes are made as often in the first point—the individual's purposes and needs—as in any other, perhaps. The psychologist tells us that the springs of human action are found in certain instinctive and deep-seated forces and impulses to action, necessary for the preservation of the individual and of the race, and whose expression and realization are the core of the business of living. The man who finds little or no opportunity for the use of his hands and mind in constructive creation, who obtains none of the satisfaction that comes from association with, and the respect of, his fellows, who has none of the security and the satisfaction of owning, who is denied the deep-seated happiness of family life—the individual, in short, who finds the channels of instinctive expression of the vital forces blocked, is a baffled and disappointed individual, who has in himself the elements of an explosion in abnormal compensatory satisfactions which may be dangerous alike to himself and to society.

A man must look to business for a large portion of these necessary objects of life. Many of the failures in life can be traced to the fact that the individual has never analyzed either the things his deeper self wants from life, or the satisfactions which the chosen occupation offers to these wants. Fortunately, most individuals possess at least a trace of

each of the whole gamut of instinctive forces, and if a man is denied expression in one, he learns to find it in another. It is a questionable undertaking to try to wrench loose and start afresh in middle life, for nearly the whole capital of acquired education, skill, and connections must be sacrificed, and there is a danger that the individual may find that the acquired tastes and modes of expression of the old occupation have struck roots too deeply to be removed, so that he is more restless in the new situation than he was in the old.

In lieu of the appraisal of the emotional forces of the individual, which is as yet a remote thing, the individual must make his own appraisal, studying his reaction to various types of work by experience and observation and endeavoring to find the type of work to which he is adapted. Perhaps the best approach to an analysis of occupation on this basis would be in a classification which brought together occupations making similar demands on the individual.

SOME TYPES OF OCCUPATION

For example, a first division might be between employer and employed. The employer is necessarily a director, he is called on to assume risks and responsibilities, and he must possess sufficient combativeness to meet with pleasure or at least without shrinking, the warfare of competition. The job of "business man" offers deep-seated satisfactions to the man who enjoys competition and strategy, who enjoys an element of risk, who finds pleasure in a sense of power and authority. It is an irritating and depressing task to the man of studious temperament who likes to be let alone to follow out a problem or a piece of research, or to the individual who shrinks from the often harsh struggles of the business world, or who worries under uncertainties.

In some men the constructive or creative instinct is powerful. Social workers and observers comment on the poise, the contentment, the dignity, often observed in the faces

and actions of obscure workmen. One is indeed more apt to find that it is the workman, and not the business man, who gives up his seat in the street-car to a lady. Our western ideals of hustle undoubtedly do have the effect of persuading many men who as masons or machinists or locomotive engineers would be useful, happy, and well-paid members of society, to lead unproductive and poorly paid lives, empty of satisfaction, as bond salesmen or bank clerks or "business men." Varying in degree and kind, the constructive instinct finds expression in such work as that of the mechanic or skilled workman, the engineer, the doctor or professional man, the artist. It is often an element in the hold that business has on imaginative men, but in the latter case it must exist with other capacities such as those mentioned, for fruition.

Selling enters as an element in many occupations and most businesses, and has its own special demands and compensations. The salesman must possess to a degree the combative instinct, combined with a strong measure of pleasure in the society of one's kind. An optimistic temperament, a certain measure of insensitiveness to rebuff, of elastic self-confidence, are essential if a man is to go on day after day, receiving at least a certain number of turn-downs, and still keep up the confidence and assurance which are part of a good approach. A good salesman possesses as well a sense of artistry, a pleasure in the well-planned approach and well-handled interview, which as we often say, "makes selling a game." A fairly good salesman can be developed out of any man who has an invincible belief, something of the crusader's enthusiasm, for his product and his mission, combined with sufficient intelligence and social perception to adjust himself to the prospect's point of view. But some men possess a much greater aptitude for and pleasure in the work than others.

Herman Schneider has proposed a classification of mental types which is suggestive. He names the following opposite types:

mental—manual
settled—roving
indoor—outdoor
directive—dependent
large-dimension worker—small-dimension worker
adaptable personality—self-centered personality
deliberate—impulsive
dynamic—static

Correct analysis is not easy for the individual. Often he has little comprehension of the real nature of the job, or sees it through the rose-colored spectacles of a general restless desire for change. It is even harder to appraise his own emotional composition, and a man often reaches middle life before he is in a position to make an intelligent adjustment to his occupation and environment. Many never reach it, but go through life to the end in blundering futility.

An interesting case is presented by the various "complexes" which occasionally occur. The term complex is used by the psychologist to denote a strong emotional set or bias toward expression or action along certain lines, which becomes almost a part of the individual's mental make-up. Often a real or fancied inferiority in some direction is the occasion of such an emotional bias, so strong that it warps reason, and the individual goes into a business, not because of real qualifications for it, but because a fear or perhaps a real perception of some vital unfitness has made the demonstrating of his ability in that particular line a matter of supreme importance to him. Perhaps the man's father has failed in business and to the son, fearing inherited weakness, a business career may become an obsession. Sometimes such a set emotional attitude is the best stimulus to success, and furnishes the tenacity and fixity of purpose which raises an obscure youth to success. But it may lead to neglecting real aptitudes to tilt at windmills.

There is as yet, unfortunately, no unfailing chart of these obscure and unmapped regions of the mind, although there are individuals who for a fee of from 25 cents to \$25 will

give comfortingly positive assurances. The advice of people of experience and of some detachment may help. Mostly the individual has to work it out for himself.

THE REQUIREMENTS OF THE JOB

In certain classes of work, especially factory and office work, a beginning has been made in *job analysis*, the charting of the specific requirements of various occupations. Degree and type of experience and education, range and quality of mental ability and alertness, physical strength, eyesight, memory, emotional qualifications, have been set down for many jobs and a method indicated for others. Here the best method of analysis, where it is possible, is to observe the successful practitioner in a particular occupation and to set down the things done and the capacities and training necessary to do them.

Each of these occupations implies the mastery of a definite body of knowledge of methods, and skill in applying them, an experience and knowledge of the field sufficient to develop judgment, as well as a certain level of intellectual capacity and a proper balance of constructive, combative, and other instincts. The mastery of an occupation is best begun under instruction. Until a man has reached the point of ability to use the tools of the trade, he learns faster from others than by trial and error.

THE MARKET FOR ABILITIES

It does little good to know that one possesses the qualifications and a desire for work in foreign trade, if the big exporting companies are committed for some years to come to a policy of retrenchment in this field. The conditions of opportunity here follow lines similar for those later to be discussed for business in general. Once the individual has found the general type of work in which he is happy and effective—manual, clerical, sales, professional, investi-

gational, artistic, executive, business, selling, and so on, the adjustment to changing conditions is less difficult. The abilities of the silk salesman may, if need arise, be employed in selling insurance—provided always, the individual sees beneath the surface of his profession to its fundamental methods. The field of opportunity shifts, and tends to the same lag or surge of supply and demand which affects the price situation, later to be discussed. When several years ago there was a great demand for engineers, men flocked to the engineering schools in such numbers as for a time to oversupply the market, and many had to find a place in other occupations.

GOING INTO BUSINESS

One of the questions asked at one time or another by most men is as to the advisability of going into business for oneself. The successful head of a business is apt to owe his success more to a well-rounded balance of qualities than to any one ability. If he is a manufacturer, he must know something about the technical designs of his product. He must be intelligent on accounting and financial questions. He must be something of a salesman, or at least possessed of sales sense. He must get along well with people and command their confidence. He must be an organizer, capable of seeing the correct relationship between individuals and the activities of the business. Similarly, with the merchandiser, sales ability alone is not sufficient to secure success.

Tom Murray was for some years a familiar figure in the retail trade of Chicago. His favorite advertisement may be remembered—a picture of the back of his head with the words below it, "Meet me face to face," and the address of the store. "Ten Dollar Tom" was possessed of a genius for selling and a remarkable advertising or publicity sense, but he was not interested in costs or finance. He did a spectacular business for a while, got into difficulties twice,

and finally went out of business. The balance necessary for the safe conduct of a business is apt to be the result of a natural bent of the mind, the capacity for extensive as well as intensive study and perception, the ability to delegate, which is apparently a simple thing, yet often lacking. In addition to this natural quality, which seems to be lacking in many men, there is needed, before it is safe to take the helm of the business, a fairly varied business experience which familiarizes a man with trade questions and technique and acquaints him with some of the numerous hidden shoals and reefs on which the good ship "business" may go aground. One often wonders why salesmen who have made spectacular successes on the road, sometimes go under so quickly when they start their own stores or factories. Sometimes, of course, it is temperament—for a successful salesman is apt to be a confirmed optimist, a special pleader, or a plunger—of diametrically opposite type to the balance and unflinching acceptance of fact that is characteristic of the successful executive. But often it is that he simply does not know the trade. He knows selling, but he does not know credits, or buying, or finance, or management, or some other of the abilities vital to the running of a successful business, as was true in the case just cited.

It may well be that a man's special abilities are worth more to society when he is employed by a large balanced organization with the capital and resources necessary to exploit them to the utmost, than they could possibly be were the individual to attempt to use them alone. Charles Proteus Steinmetz, as director of research and great mathematical genius for the General Electric Company, probably commanded a far larger salary and was far more effective as a producer than he ever could have been at the head of any business possessing the limited capital which he could have secured, and hampered by the small scale of organization and operations which followed necessarily from such limited capital. His unique mathematical ability was a rarer and more precious thing than any even unusually excellent

managerial ability could have been. Many other executives, engineers, and specialists are given by their position as members of a great organization a scope for the effective exercise of their special abilities which would be quite impossible to them as individuals.

Of course there is such a thing as undue conservatism and timidity. Determination and a ready wit may compensate in part for lack of experience, and the responsibility and stimulus of planning and managing and meeting the crises which arise in one's own business sometimes bring out abilities that would otherwise remain latent. Sometimes they do not, as appears to be true of the farmer who turned down an agent selling books on agricultural science, and being pressed for a reason replied in a discouraged way, "I ain't farming now as well as I know how to."

THE NATURE OF PROFIT

It is a principle of economics that supply and demand tend to reach an equilibrium, in which the producer with average equipment and capacity earns about as much in wages as he could elsewhere, and secures about the current rate of interest on his investment. Probably the real return is less, for many individuals find compensation in the pleasure of ownership and independence, which contents them with a smaller return than they could obtain in other ways.

Profit, as distinguished from interest and wages, results from an ability to produce at less than the average cost under conditions of equilibrium of supply and demand, or from a disturbance of this equilibrium which puts a premium on a service or an article.

UNBALANCED SUPPLY AND DEMAND

Several conditions may create opportunity by disturbing or preventing an equilibrium of supply and demand. The trader who buys stock in a steel company in anticipation of

the demand created by a building boom, or who sells stock of the same company short, in anticipation of a curtailment in the demand for automobiles with resultant decrease in sales of steel, is taking a profit created by such a disturbance of equilibrium. Such opportunities, of course, are, by nature, evanescent. The shortage (for a shortage of supply usually creates a more manageable opportunity than a surplus) may last a day, or it may continue for several years. There are investors or speculators who make their living by seeking this profit where it may be found. Now they are interested in a real estate deal, now they are throwing together a hasty organization to handle a construction contract, now investing in stock in a new company, now holding their money idle awaiting an opportunity. It is a field not usually crowded, for it requires capital and an unusual degree of judgment to get in and out at the right time. It cannot be managed by the system of betting \$2 on every horse, which was the recent theme of a popular cartoonist. Sometimes such speculation degenerates into forestalling almost purely parasitic, as in the well, if not favorably, known trade of theater ticket scalping. Sometimes it is a constructive force, contributing effectively to a necessary equilibration of the economic situation.

While there is a tendency for profits of this nature to sink to the level of mere wages and interest, there is a more or less permanent advantage to the first man or few in the field. The first man to locate a clothing store in an undeveloped territory, the first to put a meritorious new product on the market, gains a position from which he cannot be displaced by later comers except at considerable cost—a cost greater to the newcomer than to the pioneer concern—or by methods which are a distinct improvement and advance.

Profit also accrues where for one of several reasons the condition of lack of equilibrium is or can be made permanent. One method of doing this is to limit competition by monopoly, which may be obtained by consolidating competing mills and shutting down enough to create a profitable

shortage, or by destroying competitors by force or guile. A weaker form of monopoly may be created by pools or agreements limiting production. This method has been widely exploited, alike at times by the capitalist, the farmer, and the trade unionist. It is not in the best of odor, for it is felt, with some reason, that it is a predatory rather than an economic method of acquiring wealth, which it is to the interests of society to discourage. As was mentioned in the first chapter, where monopolies are socially desirable, as in the case of public utilities, the permissible profit is usually restricted by public regulation.

There are other partial or complete monopolies, however, which are fully justified. One of the methods of rewarding and encouraging invention and creative literary or artistic ability is by granting a monopoly for a period by a patent or copyright. A patent may be granted on application, for a period of 17 years, for any contrivance of a new device or new utilization of known devices, or a new design of useful products, deemed by the patent office to be novel and useful. The law requires a description and model or drawing of the device, and a claim or claims to be filed as to the features or applications to be made of the device, for which novelty is claimed. A copyright for 50 years may be granted for any original manuscript, drawing, music, or work of art, upon deposit of two suitable copies with the Librarian of Congress and payment of a small fee. Both patent and copyright privileges may be extended beyond the original term on certain conditions.

There are many new ideas which because of their nature are unpatentable. No general method has yet been found of successfully protecting the creators of new styles in clothing. No sooner is the new model displayed in the windows of the large stores than gentlemen armed with note-book and pencil will appear, and stationing themselves inconspicuously near the window, proceed to make sketches and notes, hurrying back then to shops from which cheap imitations will presently issue. But if the originator cannot

directly protect his ideas, he is, nevertheless, rewarded by the prestige of leadership and by the advantage of being first on the market.

It takes time to process an article. As much as a year may be necessary to design and complete dies and special machinery for its production, and during this time the alert producer may succeed in consolidating gains and largely increasing his trade.

SUPERIOR METHODS

The most substantial and permanent of the sources of profit in business is that which arises from superiority in business methods. Year in and year out, the well-managed business can take a profit where the less efficient business does well to come out even. This better performance of existing functions which enables one to secure profit where the marginal producer cannot do so, may in turn be due to several causes. An opportunity arises from the application of larger capital to an undertaking. Thus the large-scale packing of meat introduced the possibility of economical utilization of by-products, and a similar gain became possible with the large-scale production of gas. A combined spring knotter and coiler costing \$5,000 may replace two machines costing together only \$800 in the making of bed spring coils, but it makes possible the elimination of the time of a man earning \$2,000 a year when a sufficient volume is produced to keep the machine busy.

A similar opportunity may arise from new or better methods of marketing. There is, in a town in Michigan, a real estate agent who started with nothing and has built up the leading agency in town. Where his competitors took commissions as large and as often as they could get them, he has adhered to a fixed scale. He has made a study of the tastes of people. He has found that in this town people liked an elm in the back yard of each lot and maples on the front curb. He has found that people will pay more than

the cost of the improvements, and, in addition, buy in greater numbers and more easily, if sidewalks, sewers, water, and paving are in and paid for before they see the lot. So, before he advertises the subdivision, he sees that these details are taken care of, trees trimmed, and that the property as a whole is attractive. The lots then virtually sell themselves. Similarly, superior organization, superior leadership, superior capacity for taking pains, may give a company a permanent advantage either in producing or marketing its product over the firm less willing, less diligent, or less adequately organized. American export sales have traditionally suffered in the past from this unwillingness to adjust the product exactly to the needs of its users.

Superior organization methods, which more than ordinarily enlist the enthusiasm of the personnel of the business, the building up of a reputation for service or quality, or other qualities may give a firm a lead which only the slow general advance of the whole trade will eliminate.

THE NEW FIELD OF OPPORTUNITY

The nature of opportunity is changing. In pioneer days opportunity was pre-emption. The man who had the energy and the foresight to buy real estate, to homestead a good farm, to establish a newspaper or a business, had but to choose which of many unfilled wants of the new community he should elect to serve. Gradually the framework of the social organization has been filled in, and the basic needs for transportation, for the production of basic commodities, are now mainly well served by businesses which have in many cases acquired almost the permanency of national institutions. Of course they are not beyond challenge, and new needs arise and old ones pass, creating opportunities for independent initiative.

There are, too, the thousands of local opportunities, the store or business furnishing a single community with a service. The same forces tend toward the closing of op-

portunities on a smaller scale here, but the local business grows old more surely and quickly than the great national undertaking and as individuals pass from the period of productiveness their places must be taken by others.

Undeniably there is a tendency toward the narrowing of the opportunity for the individual business. The growth of population expands wants, but in most cases the leaders in staple fields are in a better position to absorb the increase than is a newcomer.

But a new type of opportunity appears, for service in, or leadership of, the existing organization. As society is more served by such large collective and established institutions, the opportunities for the paid administrator, the executive of the Gary type, increase. And there is a marked tendency for the diffusion of capital participation in these big businesses. An influential section of labor has abandoned the general attitude of fighting capital and has become capitalist itself. Many large corporations now number thousands of stockholders, scattered over the whole country, and participation through stock or bond ownership in business is becoming a common thing.

VIII

TESTING THE OPPORTUNITY

The need for caution. Some examples. Examining the proposition. Demand. Supply, the converse of demand. Costs and profit. Capital. The small business and its chances.

SOME of the general characteristics of business opportunity and of the situations which create it were discussed in the previous chapter. A brief reference was made to the methods by which opportunity could be analyzed in the case of adjustment of the individual to the business situation. It is advisable and rather common similarly to analyze carefully the prospects for a new business undertaking, before committing any substantial investment to it. In making such an examination, the first and perhaps the most difficult task is the elimination of the personal emotional bias to which reference was made in the previous chapter. Dewing¹ points out that the real reason for many business expansions is not a logical increase of facilities to take care of available and profitable business, but the unconscious desire of the proprietor for mere bigness. The reasons he gives to his stockholders and to himself are all plausible ones, the expansion may, in fact, be justifiable. But again it may, and often does, prove a false move, resulting in unbalancing the market or increasing the overhead and actually reducing profits. The boom of 1917-1920 gave many a business man an excuse to gratify this megalomania. One such company, known to the writer, recently went out of business after struggling for years to meet the payments on a huge new building put up at the height of the boom.

¹Dewing, A. S., *The Financial Policy of Corporations*, The Ronald Press.

Perhaps a thorough training in organized thinking, such as is afforded by a study of the sciences or of law, or to some men by the digested fruits of experience, is the best safeguard in this respect. A man who does not respect facts or know his own weakness is almost certain to be betrayed, at critical times, by this tendency to reason from desire to desired result, which the psychologist terms rationalizing. Outside advice, from one's banker, from the credit man of a future supplier, or from a competent firm of industrial engineers, is another safeguard. Council and discussion may also uncover overlooked pitfalls.

SOME EXAMPLES

At the time of the Martin Luther Centennial a few years ago, a young fellow foresaw a large demand among church people for statuettes of the famous reformer and spent a substantial sum in ordering and advertising a supply of these statuettes. But while the anniversary had a historical interest, it lacked a concrete focus for enthusiasm, and practically the whole stock remained unsold. Had there been a Luther pageant, such as the Fulton Memorial held on the Hudson River for the inventor of the steamboat, with thousands of people out and exposed to the enthusiasm of the pageant and the contagion of group suggestion, it is probable that the young man's stock would have been sold out in an hour without advertising. His analysis had not been complete. It is, in fact, difficult for one man to foresee all the factors which will affect a business venture. Tests must be made at those points at which there is a doubt. The writer was once consulted with reference to a proposal of a friend to buy an established garage business. Everything appeared highly satisfactory at first sight. The locality was a busy one, near the center of a congested apartment district where there was little or no opportunity for private storage of cars. There was some established competition, but nothing abnormal, and we wondered why so low a price was

put on the business. The reason for the anxiety of the proprietor to sell appeared, however, when we happened to study the convenience of the building from the standpoint of driving a car in and out. The entrance was a few feet too narrow to permit of an easy turn, and previous tenants had apparently found it inconvenient. With this clue, an analysis was made of the superficially excellent showing of the customers' accounts and we found that nearly all the customers were recent renters. The turnover apparently had been high, and the proprietor had wisely concluded to sell. Such apparently obvious flaws in otherwise promising opportunities are very apt to be overlooked in the enthusiasm of planning.

EXAMINING THE PROPOSITION

How may a new enterprise be examined before money is sunk in it? One excellent and important safeguard is experience. A man who has worked in a business in various capacities knows its costs, its marketing questions, its special difficulties. Another business man with money to invest was offered what appeared to be a remarkable opportunity to buy, for \$10,000, a plant and equipment valued at over \$50,000, for the manufacture of fire extinguishers. He would have invested, if it had not been for the advice of friends who urged him to go more thoroughly into the question of patents on which the manufacture of the equipment was based. On doing so, it was discovered that notice had already been served on the company of infringement of a basic patent owned by another concern and that it would be impossible to manufacture the article for which the plant had been equipped. Had he been experienced in this line, he would hardly have been uninformed on this important point.

A decisive test is that of trial. In the case of a business established by men experienced in the same line, it is quite possible and may frequently be advisable to start immediately on a large scale and with an investment sufficient to

secure at once the economies of volume production. Where, however, the individual is entering a field which is new, either because of his own lack of experience or because of a general lack of development of the proposed line, it is almost certain that expensive mistakes will be made before the policy of the business is settled and its processes and channels of distribution established. It is far better in such cases, where possible, to start on a small scale, so that such mistakes as may be made will involve, at the most, a few instead of many thousands of dollars. After this experimental period has successfully been gone through with, additional capital may more safely be invested.

It is well to apply to the proposed undertaking a more or less systematically organized questionnaire, covering all phases of the proposal, and suggesting the more probable points of difficulty. It may be profitable, if the investment is to be large, to reenforce such a questionnaire by investigations or tests made in the field before investing. The following outline, while certainly not complete for all businesses, may suggest some of the questions to be applied or to be examined in scrutinizing any undertaking.

DEMAND

What is the present volume of demand for the article? Sometimes on actual examination, it proves to be surprisingly small and extremely inelastic. A newcomer in the field of staple shoe manufacture could hardly hope to do more than share an existing trade.

Is there a potential demand? Are there new qualities of the product, new methods of advertising and presentation, or more effective distribution, which will enable it to reach hitherto untouched markets? Successful campaigns have been launched for increasing the sale of fruits, of food preparations, of lubricating oils, and of many similar products by finding new uses for them. An interesting illustration of this plan of stimulating sales is the campaign

being waged by the gas companies to find and introduce new uses for illuminating gas. Gas was originally used only for house illumination, and finding this field seriously menaced by the improvements in electric lighting, the gas makers turned first to domestic cooking, then to emergency and convenience domestic heating units, then to the great field of industrial heating, more recently to domestic heating in competition with fuel oil or coal on the score of convenience, and finally, strange to say, to domestic refrigeration by gas-heated absorption refrigerators. A considerable campaign has been launched for the creation of a public sentiment against smoke, by emphasizing the importance of sunlight and clean air to health, which it is hoped will prepare the public for the general adoption of gas for domestic heating, by the time the problem of providing additional capacity and meeting the seasonal irregularities in load have been met.

Prizes may be offered for new food recipes or suggestions for the use of a product, and laboratories are frequently maintained to investigate new applications of the product. Thus the larger gas companies frequently have a department of industrial heating, whose engineers assist the customer in applying gas fuel in his business, frequently with the result of discovering new uses and improvements of very wide application. The manufacturers of bakelite furnish a similar service in adapting this material to such varied uses as the making of insulators, tobacco pipes, gears, and other molded parts.

Surveys are frequently made, by questionnaire or by house-to-house canvass, to determine market and demand conditions. The association of manufacturers of wire-bound boxes, a new type of packing container, recently made such a survey, visiting the receiving departments of large companies to find the causes of failure, the objections, and the general opinion as to the various types of container—wood, corrugated, and plain fiber, and the association's wire-bound, light wood boxes—among the people who actually

handled and used the product. While the survey was not a selling effort, occasion was taken, incidentally, to teach shipping and receiving clerks the proper method of opening such containers and reusing them, to point out the type of shipment for which they were adapted, and in other ways to acquaint users with the special features and advantages of the product.

A survey was made by a farm magazine, by means of a questionnaire, of the buying habits of its subscribers in towns of less than 3,000 population. One point raised in the questionnaire was this: "Is your town supplied with electric power?" Following this were a number of questions, such as "Is your house wired for electricity?" "Do you use an electric vacuum sweeper, flat iron, toaster?" and so on through a series of common household utensils. In all, about 100 questions were asked, a prize being given for the best questionnaire, and a surprising showing was made of the possibility of reaching, through this paper, whose circulation was mainly in small towns, a class of people who had not hitherto been fully reached by the existing plans of advertising.

Another question under the head of demand is as to its permanence. Is it seasonal? Does it fluctuate violently during business depressions and inflations? It is said, for example, that the sale of expensive shoes drops off during periods of depression, while the market for cheaper grades actually expands. Some products are staple, year in and out, with little variation. The demand for others, such as expensive luxuries, ceases almost entirely in periods of depression.

Are there factors which will cause a change in demand? The exhaustion of nearby timber compelled a saw manufacturer to largely reorganize his plan of production, turning to the manufacture of other tools used by urban manufacturing firms, to replace the drop from his former customers, the lumbermen. The demand for style goods is notoriously undependable. Today every woman must have lace for

sleeves and throat, and the merchant cannot begin to supply the demand. Tomorrow the lace stock is dead, until fashion again directs that lace will be worn.

Changes in the use of articles must be carefully watched, not alone by the direct manufacturers, but by the producers of machinery and assemblers of manufactured goods, whose market depends indirectly on the goods in question. Thus the increasing use of cardboard cartons or of the wire-bound boxes referred to, both opened a new market, and narrowed the old market for coopered barrels, wooden boxes, and crates. Such adjustments are taking place continuously and must be considered in estimating the permanence of demand. Fortunate, indeed, is that entrepreneur who launches out to satisfy a waxing rather than a waning demand. This is easy enough to say, but it is indeed difficult, without very broad information, and sometimes even then, to predict a revolutionary change in methods, which may even now be approaching fruition in some remote laboratory, in the brain of some unknown competitor, or in the halls of some legislative body. Thus the enforcement of underwriters' regulations created the market for the sale of steel electrical conduit tubing, and at the same time made many non-conforming electrical constructions obsolete.

SUPPLY, THE CONVERSE OF DEMAND

What is the nature and strength of present competition? Is the market saturated, with an inelastic demand? It is frequently possible that a very small addition to supply may create a surplus which will exist until some producer is forced out of the market, and that producer is apt to be the newcomer, other conditions being equal.

Will the advent of a new business stimulate a process of "competitive armament"? Will existing manufacturers be tempted to enlarge their facilities in order to retain markets and drive out the newcomer? Will other persons, not at present in the field, be tempted to enter, on the advent of

a successful newcomer, thus oversaturating the market?

Does a possible advantage exist for one locality, resting upon purely local factors such as an unfavorable freight rate for competitors or similar factors, or is the advantage a national one?

COSTS AND PROFIT

What selling price can be obtained for the article? Considering the readjustment of supply and demand, which will follow entry into the market, what will be the cost of the article, as measured in direct material and labor costs of production? What will be the expenses of operation? Can a sufficient volume of business be obtained to absorb these expenses? As the business increases in volume, will expenses increase or decrease? Normally we may expect that with greater volume, expenses will decrease and unit profit will increase, but this is not always the case. The very small business may be often operated with little in the way of clerical expenses or overhead. With a slight increase of volume, it may become necessary to add a more elaborate organization which may, for the time being, more than absorb the gains due to increased sales. In order to increase volume, it is frequently necessary substantially to increase selling costs, or in other ways, as by taking of less desirable credit risks, to subtract from the present profit.

What effect will the seasonal fluctuations in volume have on the ability to carry the overhead expenses of the business? What effect will competition have on prices? What is the tendency affecting prices in general and the particular price situation in the industry considered? It is, for example, usually much easier to make money in a rising commodity price market than where the trend of prices is downward.

Generally speaking, where an excess of supply develops in a market, competition forces the giving of larger values for the money in one way or another. Prices may be cut either directly, or by giving a special discount, a quan-

tity price, premiums on merchandise, and so forth. It may be necessary to spend more for advertising and selling expenses to gain business.

CAPITAL

After investigating the mechanical practicability and usefulness of the article, the demand for it, the cost and profit, the next question is the money required to finance it. This may be arrived at in various ways. Knowing the equipment necessary to produce the article, it is possible to make up a list of the machinery and tools required, to determine the necessary size of building, and to obtain the costs of these. To these costs must be added the expense of securing the personnel and developing it into a working organization, and the initial investment in materials and in customers' accounts. A liberal allowance must be made for contingencies. It is extremely difficult, without extensive experience, to foresee all the possible difficulties which may arise to use up the capital considered adequate. Defects in product or in new special machinery, unfavorable turns in market or price, strikes, fires, failures of large customers, all the ordinary contingencies of business and many besides, may be met, and some reserve must be available to meet them.

The writer was much interested in seeing in a machine-shop a machine for the weaving of fabric bed-springs on which \$20,000 had already been spent. The first trial showed the machine totally unable to perform the work; the second expensive rebuilding enabled the machine to perform the required operation, but at too slow a speed for economical production. Less of expensive experimenting was necessary prior to the third rebuilding, which it was hoped would permit the operating of the machine at a profitable speed. Because of such uncertainties, the prospective investor should have in reserve a sum perhaps nearly equal to the initial capital investment, before undertaking a business in which there is any substantial element of the untried.

THE SMALL BUSINESS AND ITS CHANCES

There is for every business a minimum economic size, below which operation is at such a heavy disadvantage that profits and growth become extremely doubtful. This minimum may be determined by the investment in machinery required to produce. This investment is very large in the basic processes in the steel business. For example, a large producer and jobber of telegraph poles and line supplies decided that there would be an economy in rolling the special steel sections and bands used in making cross-arm braces and other line hardware. The investment was made during the boom years following the war, when it was next to impossible to secure such material at all, and proved profitable for awhile. But with the coming of a more plentiful supply and lower price, the company found itself with a rolling capacity far in excess of its needs, and with virtually fixed expenses. The high-priced rolling superintendent had to be retained whether the tonnage was large or small, the ovens and rolling machinery had to be set in motion. Eventually it proved advisable to go out and take business, even at a slight loss, in competition with other and larger producers of steel, to obtain the volume necessary to absorb the surplus output of the mill. Similarly with farming there have been determined, for various kinds of crops, minimum economic acreages.

TABLE I

TENDENCY TOWARDS LARGE-SCALE PRODUCTION IN INDUSTRY*

YEAR	TOTAL VALUE OF MANUFACTURES (MILLIONS OF DOLLARS)	PERCENTAGE OF TOTAL VALUE PRODUCED BY ESTABLISHMENTS WITH A PRODUCT OF				
		Less than \$5,000	Over \$5,000; Less than \$20,000	Over \$20,000; Less than \$100,000	Over \$100,000; Less than \$1,000,000	Over \$1,000,000
1904	\$14,794	1.2%	5.1%	14.4%	41.3%	38.0%
1921	43,790	.3	1.8	7.6	31.3	59.0

* From *Statistical Abstract of the U. S. Census, 1922*, Table 156.

There is unquestionably a tendency for the average size of the enterprise to increase in many fields. The United States Census Abstract gives a table from which Table 1 is taken, which shows the tendency towards large-scale production.

Generally speaking, this tendency exhibits itself most strikingly in those fields of production and distribution in which standardization and volume of production have become possible. Quite generally the great basic commodities are today manufactured by very large industrial units. No one today would think of starting a steel mill, except for certain special limited applications, without a capital of millions of dollars. The same is true in the making of basic food products, slaughtering, milling, and in the production of staple cloths; in tanning, in the production of such chemicals as the sodas and basic acids. The processes are today largely in the hands of institutions which are equipped for applying every latest refinement of method and machinery, and because of the superiority which their enormous volume and this equipment give them, are able to hold the market against the less effectively financed competitors, and secure the output without which such a large investment could not pay for itself. The businesses of transportation, of supplying power, gas, light, telephone and telegraph service to communities are more and more done on a very large scale.

Nevertheless there is still a field in which the small unit is not comparatively at so great a disadvantage. The United States Steel Corporation, running its great mills at a high rate of output, may not be able to afford to bother with a small order for a special alloy. Similarly, there are many other fields in which the demand continues to remain diversified and there is little profit in the application of elaborate production methods. Another field still open to the small producer is found in the style industries, where because of the constantly changing character of demand, the constant call for new ideas, there is less possibility of standardization and consequent application of large-scale production meth-

ods. Even in this field, however, the large business, while it has no overwhelming advantage from the standpoint of production, may have decidedly the advantage in merchandising its product, because of its ability to carry on national campaigns of advertising and distribution.

Another field is that of personal service. In accounting, in law, in technical and in industrial engineering, there is opportunity for thousands of small businesses, and the advantage seems to rest frequently with the small business. The service is by its very nature a personal service, and while a large personal-service organization possesses the advertising advantage—the prestige of size—it has no monopoly on personal ability, and, in fact, outside of its owners, may not be able to secure the highest grade of ability.

Somewhat allied to the field of personal service is the field of the special-order business. For example, within a block or two of a Kenosha manufacturer's huge building, there is a small one-story factory which houses a prosperous tool-making business, supplying some of the machinery needed by this business, as well as by others in the same line. The majority of the machines used by the larger manufacturer are, of course, standard, and are purchased from large-scale producers of lathes, motors, and so forth, but from time to time there is needed a machine, a tool or die which is useful only in this special trade. For the production of such parts, the small business is better equipped frequently than is the large one, particularly from the standpoint of promptness and service. In fact, a difficulty encountered by the business as it grows is the fact that it becomes more and more costly to interrupt routine for the accommodation or adjustment of special orders.

Of another type is the advantage given by the essentially local nature of the business. The day is far distant in which there will be a national monopoly in making bread. Because of its perishable nature, bread must ordinarily be made close to the point of consumption. Similarly with brickmaking,

where the weight and cost of transportation of the product give a degree of protection to the local manufacturer against competitors. A national organization with a chain of local factories is, of course, possible, but it has not the same advantages as it would have where production could be centralized.

It will be seen there are many fields in which the advantages of large-scale production are limited or are counterbalanced by disadvantages. In addition to these natural fields of opportunity for the small business, there are, of course, frequent opportunities for the man of special alertness or capacity to capture a field apparently preempted by a larger and established competitor. A new patent embodying basic improvements in production may give the opportunity. A serious error of marketing, finance, or production policies of the established firm may expose it to attack by an alert competitor.

A recent change of this sort, for example, took place when a generally acknowledged leader in a certain field settled back, as it supposed, to an uninterrupted continuance of its prosperity. Its advertising followed the old methods, the product carefully worked by years of experiment and trial was supposed to be incapable of improvement. Just about the time that it reached this position of supposed security, a competitor who had formerly been regarded as far from formidable burst into print with a spectacular advertising campaign, with a product perhaps no better in basic principle, but with a new appeal on a style basis, and in the course of two or three years captured the position of dominance formerly held by the older company. History is full of such revolutions. They may be made possible by a sense of false security, or by the aging of the personnel of the business so that the business comes to reflect the undue caution and conservatism of the aged. They may be made possible by the death of the dominant personality of the business, who, it is true, can pass on the building and machinery and other material assets, but cannot transmit

the genius for leadership which brought these assets into existence. It is indeed rare that a business celebrates its centenary; and with the change of public tastes, the development of new technical methods and the passing from the field of dominant men, there is constant opportunity and will always be opportunity for new businesses.

While the door of opportunity is thus never closed to the ambitious and capable man, it must be admitted that the field for the small producer is narrowing. More and more, as transportation and communication increase, as the range of distribution of a product widens, society finds it possible to utilize the standard and, therefore, cheaper product. A generation ago no one thought of wearing ready-made clothes except for the roughest work in which fit and style counted for nothing. Today the art of tailoring to average proportions has reached the point where only the ultra-particular find it impossible to satisfy their tastes with a ready-made garment. As Henry L. Gantt says, society is constantly pushing further out the fringe of the special and the unstandardized, and constantly reducing the affairs of life to well organized and standardized methods.

After the survey which discloses the practicability of the plan and the money needed to finance it, the next step is the actual promotion of the business, the finding of investors who will contribute to the capital, and the assembling of the various elements of the going business.

IX

PROMOTION AND INITIAL OPERATION

Problems of organizing the business. Initial uncertainties. The promoter. Raising capital. The sources of capital. Initial operation. Reorganization of going concerns. Location. Locating the factory. Regional specialization. Choosing the right site. Location of the retail store.

ORGANIZING a company involves four stages. First comes the sort of an analysis of the proposition and of its chances for success, which was taken up in the two preceding chapters. A second stage is the assembly of the elements of the business. A location for the factory or store, an office for the insurance company, must be leased or purchased. If the company is to depend on a few large outlets for its business, it is important that it shall have some assurance before starting, that satisfactory contracts can be made to secure these outlets, in the way of connections with jobbers or wholesalers, or other large users. Patents will require attention, securing a patent if the device is the property of the company, or making a contract with the inventor by which the patent is transferred to the company or permission is given to manufacture under the patent, and arranging the royalty or consideration for the same.

A personnel must be secured. Usually at this stage it is necessary to secure only the few vital men—the president or active manager, the production manager, the designing engineer, the sales manager, and such others as the company may need. These will then know how to build up their organization. Choice of the right men is likely to make the difference between success and failure. The Bell Telephone Company struggled along under desperate difficulties until it secured Theodore Vail as general manager. His experience in the railway mail service, his genius for organization and large-scale

management, were at that time a necessary element in the success of the undertaking. Contracts must be made for raw materials, and the finding of the right source of materials is often a considerable task. Often just the needed part or material is being made in quantity by some firm. If such a source of supply be located, it will save expensive equipment and much delay. In the case of public utilities, franchises must be negotiated and rights of way secured. Plants may have to be built and machinery secured. Finally, and often most important, capital must be raised to cover all these needs.

INITIAL UNCERTAINTIES

The undertaking is at this point a particularly fragile thing. While promotion may be a comparatively simple thing, it may assume the baffling perplexity incidental to putting a watch together again, one necessary wheel or pinion slipping out of its bearings while an effort is being made to coax another into its place. If holders of real estate get wind of a vaguely rumored "big deal" under way, prices are apt to go to exorbitant levels. In buying the site for a big hospital in an outlying section of town, the agents of the corporation drove around and saw all the landowners in one evening, securing an option from each at a fair price without giving him an opportunity to communicate with the others. There is sure to be some stubborn individual, who realizes that he is in a position to take advantage and secure a fancy price, and does not hesitate to do so. In promoting a big hotel project it was discovered that a neighboring photographer had many years before been given, gratuitously, permission to put the supports for an arbor on the edge of the proposed site. He refused to relinquish this right except on the payment of several hundred dollars, which was paid, rather than interfere with the project. In this initial stage many things are necessarily contingent; contracts cannot be finally made until it is known that cap-

ital will be secured, subscriptions to capital stock are contingent on the full amount projected being subscribed.

THE PROMOTER

Some skill is necessary in this stage, and it may be advisable to turn the whole matter over to a promoter who has the experience in persuasion and organization, and the contacts, necessary to carry the project through. The promoter comes on the scene in various ways. He may be the originator of the idea, seeking to interest capital in it and taking as his compensation an interest in the business, or a contract as manager or president of the new company. Sometimes in large enterprises promotion is done by such a banking house as J. P. Morgan & Company, which will examine the proposed undertaking or consolidation and, if satisfactory, undertake the whole task of financing, naming the officers of the company and taking its pay in stock, or in the difference between an agreed price paid for the stock, and the price received for its sale. Sometimes the promoter is an experienced business man or lawyer, who organizes the undertaking and assists in placing the stock, for a fixed compensation, preferably cash for actual expenses and stock in the company for his services.

During this stage of assembly it is well, as far as possible, to make all agreements contingent. Options will be taken on properties for a small consideration. Subscriptions to stock will call for only a small down payment to finance the initial expenses, the balance to be paid either in cash on completion of the project, in stipulated instalments, or on call as it is needed. If any substantial payments are made in cash it may be advisable, where the investor is not well acquainted personally with the promoters, to have the funds placed in the hands of a bank or other agency which will act as trustee, releasing the funds only when the conditions of the trust as to the raising of the stipulated capital, and so forth, are complied with.

The promoter himself is in a somewhat ambiguous position during this stage, unless he has wisely protected himself by a contract calling for a specific compensation, naming the conditions to be fulfilled in order to make the compensation payable. As in the case of the real estate agent, there is a temptation for the clients, after having been brought together by the agent or the promoter, to deal direct and ignore the one who made the deal possible.

At this stage the question of control of the company also becomes a matter for serious consideration. It is, of course, very desirable for the initiator of the enterprise to retain a majority of the stock if possible. Where several men, who know each other and work well together, are organizing the business, this is not so vital. The danger of letting go of the control is well illustrated, however, in the case of the inventor of the best known and most widely used of the automatic furnace stokers now universally employed in large power plants. He was paid for his patent, an extremely valuable one, in stock, and the company was given his name. Not having a control, however, it was possible for the other stockholders to freeze him out by such measures as passing dividends, excessive payments to officers, and so forth. He has now no connection with nor any income from the big property which owes its genesis to his inventive ability. Instances of the same sort are unfortunately too common. They emphasize the need for circumspection in the initial stages of incorporation, when a small sum of money invested may determine a control which will become more important as the company develops.

RAISING CAPITAL

The third stage in organizing the business is the securing of capital, involving the payment of subscriptions already made and the raising of more capital by the sale of additional stock. Various classes of stock may be sold, the rights conveyed being adjusted so as to interest the widest

possible range of buyers. By the issuance of various classes of securities, it is possible, with a safe undertaking, to offer terms of investment appealing to various classes of investors.

Common stock carries with it the greatest risk, the holder of common stock being entitled to profits or even to the return of his investment only after all debts and obligations of the company due bondholders and preferred stockholders are fully satisfied. *Preferred stock* carries usually an agreed rate of return which will be paid as dividends if profits are earned at all. The *bondholder* does not participate in the ownership or risks of the business, but simply lends money to it, taking as his security either the general credit of the company or a pledge of specific assets. By a judicious use of these various classes of investment offerings, it may be possible to retain a control of the business with a relatively small investment. If, for example, a company is organized with common stock of \$100,000 and is able to show stable and satisfactory profits, it may be possible, when established, for it to obtain an additional \$100,000 or more of capital by the sale of preferred and non-voting stock. The property represented by the \$200,000 thus invested would be, under the conditions assumed, an adequate security for a bond issue of \$50,000 or even more, possibly. Evidently the holder of only slightly more than \$50,000 worth of common stock could retain the control over an investment of \$250,000, subject only to the contract rights of the preferred stockholders and bondholders. Whether such a plan would be profitable would, of course, depend on the assured ability of the business to earn on the total capital an average rate safely greater than the return guaranteed on the preferred stock and bonds.

THE SOURCES OF CAPITAL

Naturally, the first source of capital is the money which the owner or projector of the business is able to put into it. And an ideal way to build a business is to start in this way

and grow from profits plowed back into the business. Thus it is said that the \$50,000 of capital with which the Ford Motor Company started business was the only capital, outside of earnings, ever put into the business. Frequently, however, the owner does not possess the funds necessary to produce even the minimum economical producing unit, and in this case it is necessary to invite outside investment. For a new company of moderate size, the most available source of such capital is among the friends and acquaintances of the owner, who have confidence in his business ability and his project. The same thing is true, on a larger scale, for larger undertakings. It would be hopeless to attempt to interest informed investors in a project backed by unknown people and with no assurances of profit. In larger enterprises, however, the salesmanship which is the special contribution of the promoter, has a more important influence and the stock may be advertised extensively to the general investing public, by newspaper statements and prospectuses mailed to prospective buyers.

The established concern which wishes to increase its capitalization by selling stock has a number of markets open to it. The general investing public can be shown a much more convincing statement of actual accomplishments and of future projects and profits which may be realized by the investment in the case of the established business.

Stock may also be sold in certain cases to employees of the concern. The sale of stock to an employee has an advantage, apart from the capital realized, in the possibility of giving the man a personal interest in the success of the business. There are certain risks in the sale of stock to employees, however, which must not be overlooked. The employee is usually not trained as an investor, although he may in time be educated to the investor's point of view. If prices on the stock decrease, employee stockholders are apt to become panicky and throw their stock on an already declining market, also to manifest their resentment at the apparent loss in other ways, to the disadvantage of the com-

pany. There is also the chance of the employee's stock passing into the hands of outsiders, with the resignation of the employee or simply because he needs the money and sells his shares. In order to safeguard the company against these dangers, it is quite common to sell this stock under a special contract, under the terms of which the employee purchaser is given a special privilege in the matter of price or terms of payment, and in turn agrees to give the company a 30-day option, for example, to purchase the stock before selling it to an outsider. He may also be required to sell his stock at an agreed price (book or market value, for example), in case he leaves the company. It is generally inadvisable to permit employee stockholders to acquire anything approaching a majority holding in the business in most cases.

Another special market has been actively utilized by the public service corporation, in the selling of stock to customers. This has the double advantage of raising capital without the frequently heavy expenses of bank or professional promotion, and of interesting a large body of users in the success of the company. This idea has also been successfully applied in other fields.

INITIAL OPERATION

The last stage in promotion is the period during which, the business machine having been put together, the wheels are started and operation is begun. During this period there are likely to be a good many spots at which oiling, tightening of bolts, and adjustment are necessary. Unexpected difficulties may be encountered in producing the product on a commercial scale. Machines prove unsuitable and have to be replaced. Difficulties develop in the use of the product by consumers. It is related of the Eastman Kodak Company that it was among the first in this country to put out the then novel dry plate, which has almost universally replaced the old wet or collodion process in photography. Large quantities were sold, but the plate proved

to have poor keeping qualities and in two or three months complaints began to come in from every hand. The company could have refused replacements, but Mr. Eastman rightly felt that his reputation was at stake, and the whole issue of plates was withdrawn, as far as possible, and replaced. Such losses may occur at any time in the company's history but they are particularly probable in this period, and liberal allowance must be made for such contingencies in financing.

It takes time, also, for the organization to find its pace. New executives come from various enterprises where each has used his own methods. These often contrary ideas must be smoothed out, executives and employees trained in the new methods, and ambiguities in instructions ironed out.

During the whole period of assembly and initial operation, money has been pouring out daily, in amounts sufficient to cause a nervous investor to wonder whether he will ever get it back again. And even for a short time after things are running smoothly, outgo continues to exceed income; for many sales must be made on credit, and as long as sales continue to increase, additional cash is being soaked up in the form of goods shipped and not paid for. The estimates of capital requirements must include not only plant and fixtures and initial stock, but enough money to cover the expenses of operation until an equilibrium shall have been reached. Beyond this, there must be further reserves available, cash or property which can be realized on if necessary, or sources from which loans may be secured. Chances are inevitable in business, and it is a good rule, only in emergency to allow the business to be in a position in which, if something happened, additional money could not be raised in some way not ruinously expensive.

REORGANIZATION OF GOING CONCERNS

Somewhat the same questions in part are met in expanding or reorganizing a going business, as are met in beginning

a business. Reorganization may be considered advisable to secure new capital to expand an already profitable business, or it may be needed to rehabilitate a business after a period of loss which has dangerously depleted its resources. The former case, of course, presents much the easier problem. In the former case, application would usually be made to the secretary of state of the state in which incorporated, for permission to increase the capitalization to a named amount. A certificate signed by the president and secretary of the company, stating that the increase had been authorized by vote of the stockholders would also be sent. New stock would then be available for subscription and sale, either common stock or a special issue of some form of preferred stock. Preferred stock might be used, either because it was desired to offer the new stockholders the special inducement of security of the preference, or because the company earned large dividends which it was not necessary to share in order to induce investors to buy, a fixed return being sufficient inducement to secure the needed money.

Where the company is embarrassed, new investors may come in on much more advantageous terms than the original investors, the latter finding it needful to make substantial concessions to protect what is left of their original investment. Where the difficulties are serious, holders of common stock or junior securities may be forced by circumstances either to give up their entire equity in the business or to pay an assessment sometimes equal to their original contribution, to protect their holdings.

A company with a good record has, however, resources for borrowing money which the new organization does not possess. A new company is seldom able to raise money by the sale of bonds or to borrow from a bank except on the personal credit of some of its members. A going concern may utilize either or both of these resources, and by the sale of long-term bonds, secure money needed for an expansion without increasing its capital stock, the bonds being retired from the profits earned by the expanded business—provided

profits are earned as expected. If not, there is again a need at the maturity of the bonds for some method of refinancing.

LOCATION

When the financing is pretty well settled, another question of great practical importance must be settled—the location of the new business. This question may also occasionally recur at some later time when growth of the business or changed conditions make a new building or location advisable. Moving is a costly job, and it is a serious mistake if the original location is not right. Frequently little attention is given to location in starting a small business, and the question comes up with later growth.

The basic factors affecting location are essentially similar no matter what the type of business. There are the physical advantages of the site itself with respect to low taxes, cost or rentals, climate, favorable municipal regulations, or state laws, fire protection, room for expansion, and similar factors. There is the question of convenience to the market from the standpoint of distribution, of contact with customers in the way of convenience, display, and so forth. There is the analogous question of contact with the sources of material and labor. While these questions are found in any problem of location, we find, however, quite a difference placed on the emphasis on each of them in the case of a manufacturing business and of a merchandising business, particularly the retail store.

LOCATING THE FACTORY

The question of shipping costs bulks large in the decision of location for most factories. With the increasing costs of transportation, an unfavorable location with respect to either market or raw materials constitutes a serious and permanent handicap. The freight rate on any commodity between any two points is made up of two factors, the tariff

and the classification. The railroads publish tables of tariffs, which show the rate on commodities of first, second, and other classes between the various points on the road. The classification of the article depends on its bulk, weight, value, fragility, and other factors, and is found by referring to a classification book. Thus an article may be first class or double first class, second, third, or fourth class, or take the special commodity rates which are made on certain commodities such as coal, ore, and so forth.

For some classes of material, freight is an insignificant element of cost, and the company need not consider this factor in location. But for most commodities which are to be shipped, very careful consideration must be given to securing a location advantageous from this standpoint. Some industries, such as brickmaking, are essentially local because of the prohibitive cost of shipping any distance.

It is usually cheaper to ship a knocked-down article than an assembled one; therefore, a company will frequently maintain branch factories to assemble unit parts made in a central factory. Branch warehouses are also desirable to make possible the important savings secured by carload shipment, the goods being shipped in full cars to the warehouse and distributed from there as needed by local freight. In some cases it is possible to get the advantage of the carload rate by making up combination cars, which, for a slight additional charge, the railroads will deliver successively from town to town, allowing the customer in each town to take out his consignment and reship.

The ideal location from the standpoint of freight is on a line between raw materials and market, close to one or the other, according as the reduction of volume or the increase of classification in manufacturing is the more important.

In addition to transportation costs, nearness to market is important in other ways. A remote location usually means the additional cost of maintaining separate selling offices in one or more principal cities. The cost of this may, of course, be offset by other savings, such as the cheaper plant

and lower operating costs sometimes possible in a small town. In any business in which quick deliveries are important or special orders frequent, a remote location is a much more serious handicap than it is where the article is staple, where orders are placed well in advance, or where a stock may be carried for immediate delivery from branch warehouses.

REGIONAL SPECIALIZATION

One of the most interesting of the developments of business is the tendency of businesses of like character to group themselves in one locality. This tendency towards regional specialization is well illustrated in the concentration of the manufacture of men's clothing in Chicago, New York, Rochester, Cleveland, Baltimore, and a few other towns which make a large proportion of the country's garments. Even more striking illustrations are found in the cases of meat packing and publishing. Sometimes this concentration is due to proximity of some special raw material or of some other advantage of locality. Often it is due to purely historical causes. The first successful business in that line happened to establish itself there and former employees or members of the business branched out and started their own competing companies in the same locality. As a trade center is established, all producers in the line find a certain advantage in the concentration. They are assured of a plentiful supply of skilled labor and frequently the skill in a locality becomes unique, being handed down from generation to generation. Auxiliary facilities, special buying arrangements, special transportation provisions, the existence of auxiliary companies manufacturing special tools or other products accessory to the primary product, grow up and tend to increase the advantage of the original concentration.

The same process often takes place in the location of merchandising concerns. Wabash Avenue between Lake and Randolph streets in Chicago is a center for the whole-

sale cut flower business of the city. Farther south on Wabash, between Monroe and Van Buren will be found most of the retail piano and musical instrument stores. The wholesale hardware dealers cluster on Lake Street. In New York the financial center of the city is in the neighborhood of Wall Street. It will often be found that as soon as one retail store in a certain line, such as furniture, establishes itself successfully, others will seek neighboring locations, dividing some of the business, it is true, but tending to offset this by building up a definite shopping center known of by many customers, and attracting a greater trade proportionally than any one store could do. Figure 9, on page 146, illustrates the operation of this tendency among the retail furniture stores of Chicago.

CHOOSING THE RIGHT SITE

There are really two separate steps in selecting a location. First comes the decision to locate in a particular part of the country, a particular town. In this choice the per capita buying power will be considered. It is low in the South, higher in the West and North. Density of population, buying habits, local competition, will all be studied. A statistical map showing the distribution of population and of wealth in the United States will show a belt extending westward from the New England states, New York, and northern New Jersey, through Pennsylvania, Ohio, Michigan, Indiana, and northern Illinois, which includes a large portion of the industry and wealth of the United States. The question must be settled as to whether to start the business in a locality in which competition is keen but demand is large and concentrated, or to go to the more sparsely populated states where the reverse conditions prevail.

After the question of general locality is settled, a site must be selected. Convenience to a good labor supply is important. It may be advisable to secure a location having direct side-track railway connections. The fire hazard of

adjacent buildings and of the industry itself must be considered. A site which, because of the nature of the soil, grade, or other reasons, would be expensive to build upon must be avoided. Provision must be made for later expansion. It is often best to start out in a rented building. When the business expands, enough experience will have been accumulated to avoid costly errors in designing an owned building.

LAYOUT OF THE BUILDING

This is the next step in the starting of the business. As a wrong location may choke the external development of the business, so a poor layout may add to manufacturing costs, hamper production, and stand inflexibly in the way of later economical expansion. The general practice is to analyze the process of production, determining the order of the manufacturing processes and the equipment required for each. Templates will then be drawn to scale to represent each machine, and these templates laid out in various experimental combinations on the scale plans of the building, until the best combination is worked out. The idea is to get a smooth and orderly flow of production, as much as possible in a straight line from the receiving platform at which the goods come in, to the shipping dock at which the finished product will be loaded into cars for shipment. Various secondary departments for storage of product and tools and control of operations must be considered, as must also the question of lighting, power, aisles, and similar details.

LOCATION OF THE RETAIL STORE

Here the all-absorbing question becomes that of accessibility to the customer. The influences which produce a shopping center in a town are frequently more or less accidental, although, of course, controlled by the location of the residential district, passenger transportation facilities, and similar factors. Once established, however, factors not dis-

similar to those operating in the case of original specialization of industry tend to concentrate retail trade in the locality. People become accustomed to going to a particular locality for purchases of all sorts, and the newcomer finds it to his advantage to place his store in the path of this stream of possible purchasers. Traffic studies are frequently made in determining the advisability of a particular retail-store location. Observers are posted at the points under consideration and counts are made of the number of persons passing from hour to hour for the day. Such studies cover not only the number but the attitude of the buyers passing. Men hurrying to and from work are not as apt to stop and buy as those deliberately shopping or in a more leisurely mood. Certain types of commodities make their appeals to special classes of buyers. Thus, there is a rough line of demarcation in the loop shopping district in Chicago. Stores on one side of State Street, for the most part, make their appeal on a price basis, as contrasted with stores on the other side of the street, which appeal to a different class of buyers. The problem of locating a restaurant would be determined by quite a different study from that of locating, for example, a grocery store. Frequently, a comparatively slight error in location will make the difference between success and failure. The writer at one time had an opportunity to observe the gradual drift towards failure of a furniture business which picked a location about half-way between two fairly prosperous furniture shopping districts and not far from either district. It proved to be just far enough out of the current so that it was passed unnoticed by the majority of buyers.

The handicap of an unfavorable location may be overcome by advertising, or special inducements of one sort or another. "Walk up-stairs and save \$10" has been made the basis of a successful selling appeal for a chain of men's clothing stores, and a merchant known for special goods or price inducements may be able to bring trade to his doors.

The John M. Smyth Company, of Chicago, is an inter-

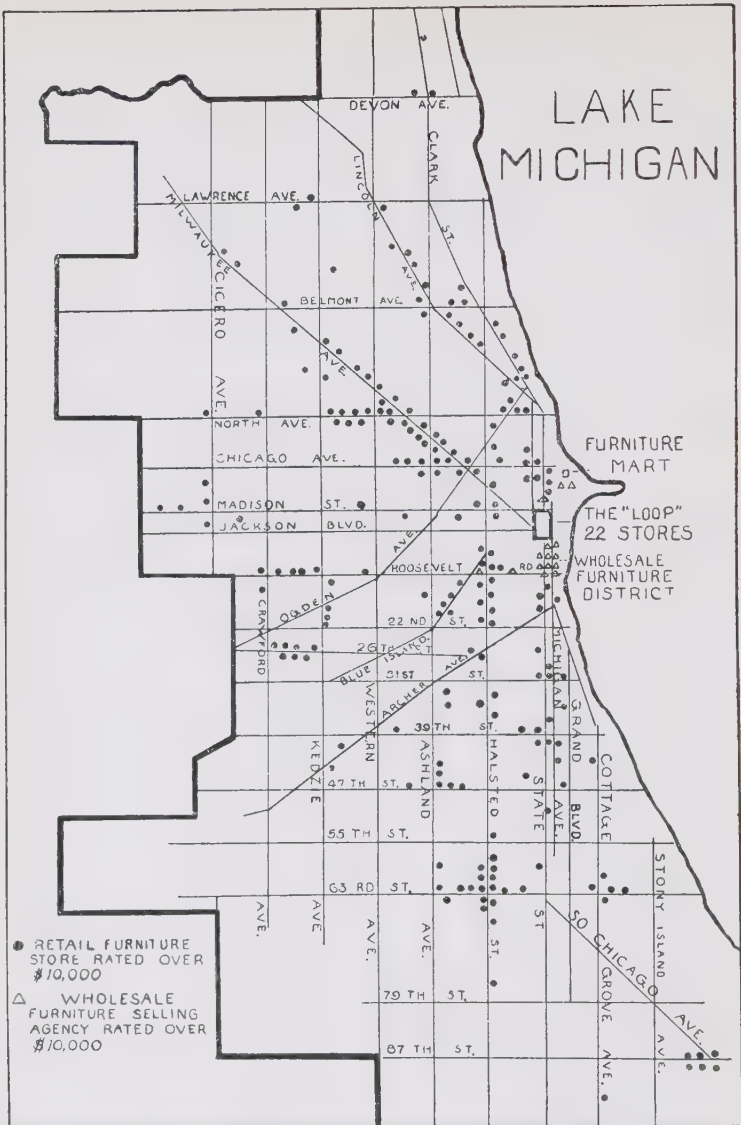


Figure 9: Map showing the location of the larger wholesale and retail furniture stores in Chicago. Note the tendency toward regional specialization in certain districts.

esting example of a company successful in spite of an unconventional location. This large furniture house has done business for many years in its present location, which is about a half-mile west of the shopping center of Chicago, and in a section, which, as a whole, is given over to wholesale businesses and to small second-rate retail establishments. The location, superficially, would appear impossible. It is sound, however, from the standpoint of transportation, being within one or two blocks of two or three of the great railway suburban traffic terminals, as well as being on one of the main street-car arteries of the city and passed by many people on their way to the shopping district. Furniture is also a commodity whose purchase is sufficiently important so that people will go out of their way, if necessary, to supply their needs to the best advantage.

Generally speaking, where the commodity sold by the store is such that there is a substantial advantage gained in shopping by comparing prices, there is an advantage in locating the store in a central shopping district, since people have been found to prefer comparing prices in two or three stores before making their selection. On the other hand, where the item is small or well standardized in price and kind, so that there is little advantage in spending time in selection, the store, to reach customers, must be located in the most convenient possible point. Usually such goods are handled in neighborhood stores for this reason. The drug store, the grocery store, the restaurant, and the tobacco shop are of this type, in which the effective sales are secured by small units, widely distributed with very careful reference to the passing of prospective customers or to proximity to their homes. Where considerable thought is given to the purchase of a class of articles, convenience and conspicuousness of location are less essential, although still desirable.

Figure 9 illustrates the way in which these tendencies actually affect the locations of stores in a shopping line, furniture. The concentration of stores, all large ones, on North Avenue will be noted. Another center exists at Sixty-third

and Halsted Streets. Milwaukee Avenue, running through the foreign sections of the city, has 28 large furniture stores on its length, not to mention dozens of smaller stores not shown.

Location in Chicago is complicated by the fact that the foreign element in the population does not get down to the loop, but buys locally, largely from stores of the buyer's own nationality or speaking his native language. This accounts, in part, for the apparent tendency toward location on convenience principles. Much of the buying of more informed and well-to-do customers is done in the loop, with its 22 large furniture or department stores. A tendency to break away from the congestion of the loop is shown by the development of shopping centers of the better class outside the loop, at Sixty-third and Halsted Streets, and on Clark and Lincoln Streets, near Belmont Avenue.

The regional concentration of the wholesale furniture market is very clearly shown in the diagram, with the tendency to form a new district in the vicinity of the new Furniture Mart.

X

CAPITAL

Stock as an evidence of values. Assets. Turnover. Expense, profit and loss. Turnover, expense, and capital requirements. Skinner's formula. Williams' formula. Working capital. Fixed assets.

THE capital raised by the prospective owners of the business may be contributed as cash, or it may by agreement be in the form of services as promoter or in other capacities, as patents at an accepted valuation, as property, or in any other valuable form. What is known as "watering" stock consists in increasing the apparent amount of the capital, by contribution or setting up of items of a fictitious value. It is often done from quite harmless motives such as over-optimism, but may be and often is used to induce investors to pay more for a share than it is worth.

The par value of the share is presumed to represent the actual cash value of the capital contributed. With the passage of time this value may increase or decrease. The book value of the share is the total net worth of the company, divided by the number of outstanding shares, properly weighted if the shares are of more than one denomination. It is usually a good indication of value, but the books may be incorrectly kept, either from ignorance or motive. The market value, the most accurate indicator usually, reflects the opinion of outsiders and stockholders, considering not only present book value, but earning capacity and the future of the company.

ASSETS

The money invested in the company is rapidly converted into other assets such as plant, machinery, franchise rights,

the expenses of promotion and organization, and for other purposes. Doing business, in turn, involves repeated circulation of these various assets, through a cycle of purchase, or creation of a stock of goods or inventory, the sale of these goods, collection, and reinvestment of the money received. This circulation of capital may in a sense be likened to the circulation of blood in the body, and the problem of the financial manager is in maintaining a well-balanced and vigorous circulation. Congestion in any one asset, such as too heavy an investment in inventory, has effects corresponding to those of a similar physiological congestion, which withdraws needed blood from other organs, causing cold feet from too much studying, or a torpid brain after too hearty a meal.

TURNOVER

Capital turnover may be defined as the ratio of the net sales for a period such as a year, to the average capital investment for the period. It may be computed either on the basis of the total capital, including both owned and borrowed, or on the basis of net owned capital. In the latter case it would be distinguished as the net worth turnover. Stock turnover may be defined as the ratio of total net sales at cost, for a period, to the average inventory at cost. Turnovers may be computed in the same way for any subdivision or class of assets. Thus we speak of the turnover of accounts receivable, or compute departmental turnovers, and so forth.

The fact of turnover is obvious enough in the case of an inventory. While less apparent, it is just as real a fact in the case of the fixed assets, only a few of which, such as land, are exempt at any time from an inevitable depreciation and using-up in service. In some way this continuing wasting of the asset must be recouped if a profit is to be made. In reality what is happening is that we are in effect paying so much per hour of use, for the value which

machining adds to the product, and the purchase of a machine, or a store fixture which will increase sales, may be looked on as a lump purchase of perhaps 25,000 or 30,000 hours of service, depending on the estimated life of the asset.

EXPENSE, PROFIT AND LOSS

Part of the money which is paid in as capital does not reappear in the form of any tangible asset, but goes simply for the maintenance of conditions which make it possible to do business. Thus taxes give no value directly but are in the nature of a payment for government protection, policing, roads, services of the courts, and so forth. The accountant, by the process of analysis of this expense, endeavors to attach it to the product to whose making or marketing it has contributed, by the addition of percentages or "burden," to the direct and ascertainable cost.

In a going business, although the money invested in materials, or allowed to remain for a time as accounts receivable, is constantly circulating and reappearing as cash, it is necessary to remember that its place is as constantly taken by fresh purchases, so that to estimate the true capital requirements it is needful not only to know how much will be spent for buildings, fixtures, and other fixed or "capital" investments, but as well, the amount constantly tied up in inventory, accounts receivable, and other "working capital." And just as these tangible assets tie up a certain amount of money, it must also be appreciated that there is always a certain volume of money paid out as expense, and not yet distributed to the proper product and realized.

Probably if one looks at the business from the owner's standpoint rather than the accountant's, the distinction between assets and expense will appear less clear-cut at times, and the distinction is frequently perplexing even to the accountant. When we spend money for advertising, we are, if the advertising is effective, adding a value which is not tangible and could not be realized at a forced sale of

the business, yet which is very real, for it will be felt in increased volume of sales at a decreased cost. As a matter of fact, there is an element of speculation even in the most apparently tangible asset. The machine purchased today may be rendered obsolete and unsalable by a new invention tomorrow. If a milliner designs a hat that will not sell, he has in his storeroom a tangible evidence of expenditure, yet he does not have an asset.

The element of speculation, therefore, enters into all investment, and a wise expenditure for increased office help, or advertising, or executive salaries or lawyer's fees, while it results in no tangible asset which will show in the financial statement of the company, nevertheless is just as real a value as that put into brick and stone and steel. The accountant, however, is wisely cautious in such matters. He recognizes as assets only those expenditures which result in tangible goods or values, directly recoverable in the ordinary course of business, and regards as expenses not only those expenditures clearly not recoverable, but also expenditures such as advertising, whose value is uncertain and problematical. To the extent that such expenditures have created values, these values will eventually show themselves in increased profits realized when the goods are sold. If, however, a sale of the business is contemplated, an estimate would at once be made of such values, built up by advertising, by expenditures in building up the organization, and so on, and these values would be charged for, under the title of good-will, going-concern-value, and so forth.

TURNOVER, EXPENSE, AND CAPITAL REQUIREMENTS

The relation between turnover and profits is clear enough. A budding financier in one of the evening classes of a school of commerce created some amusement by insisting that if enough volume could be obtained by selling below cost, a profit could be made. But although he did not phrase it just right, he had the right idea. In any business there is

quite an amount of expense that is independent of volume—the cost of taxes, rent, salaries of steady employees, heating, telephone, light, power, and a multitude of other bills that, given a certain establishment, must be met even if not a dollar's worth is produced or sold. Interest on the investment and salary to the proprietor should be considered in the same class in deciding whether to start a business, for there is no sense in subjecting money or personal effort to the risks of business when as good a return could be had without risk or effort.

This dead load must be carried by sales. The greater the sales, the more rapid the turnover, the smaller the percentage of each dollar going to expense. In fact, J. H. Williams, in a paper given before the Taylor Society, develops a formula for determining the volume of sales necessary to meet the fixed expense, and for calculating, by the volume above this deadline, the approximate profit from operations, in advance of the information given by the regular financial reports. This formula will be taken up later.

SKINNER'S FORMULA

E. M. Skinner, general manager of Wilson Brothers, and a well-known credit man, gave in a lecture on retail-store management a formula embodying somewhat the same idea, for determining capital requirements, which may be used as a check on the computations described in Chapter VIII. The formula is used by Mr. Skinner in passing on the advisability of extending credit to prospective retail men's furnishings storekeepers, but, with suitable adaptation, is equally useful in any other business.

The formula is based on the fact that it is usually relatively easy to determine with a fair degree of accuracy the fixed expenses of a business. Suppose, for example, a prospective storekeeper expects that his rent will be \$50 a month, that he will have to draw \$150 a month for living expenses, and that \$50 a month will about cover telephone,

taxes, insurance, heat, light, and so forth, a total of \$250 a month or \$3,000 a year. Assume further that the goods may be sold at an average gross profit of 30%. Variable expenses, outside the cost of the goods, which is figured in computing the gross profit, are small and may be assumed to be covered in computing this profit.

The question next is as to what volume of business will be needed to carry this expense? Evidently $\$3,000 \div .30$, or \$10,000 sales per year, will be the point at which the proprietor just breaks even. Now if we assume an annual stock turnover of 2, or \$2 of sales for each dollar invested in average inventory, the inventory necessary to produce this \$10,000 of sales will be \$5,000. Five hundred dollars must be added to this for the cost of fixtures for a small, simple store, and the average accounts receivable carried would have to be added if other than a cash business is to be done. These assumptions would, of course, be based on experience in a real case, but represent reasonable values in this example. If the store had a good location and a more rapid turnover, less stock would be needed and the business could be started with less capital, or a larger volume done on the given investment.

To a new customer who was judged to be a satisfactory credit risk, a wholesale house would be willing probably to extend credit for the first year or so, allowing the new firm to carry perhaps \$2,000 on its books, giving notes for merchandise, renewing part and paying off part of the notes as they came due. This would reduce the necessary owned investment to around \$3,500, and would indicate the minimum capital on which it would be safe to start this business.

WILLIAMS' FORMULA¹

The method of computation just given is like the one next to be discussed in that each is intended only to give a sort

¹Williams, J. H. "A Technique for the Chief Executive," *Bulletin of the Taylor Society*, April, 1922.

of approximate dead reckoning of position, between the periods when accurate returns are available, or in advance of the facts shown by balance-sheet and income statement. As previously mentioned, the formula described by Mr. Williams is based on the assumption that the total expense of doing business is composed of two elements, one approximately fixed, regardless of volume, and another approximately proportional to volume. This is, of course, not an exact assumption, for profit may either increase or decrease on additional increments of sales. However, in any specific case, the formula being corrected with the growth and changes of the business, it may be made very useful. It also illustrates well the problem met in the financial management of a business.

Let us suppose that those expenses proportional to sales constitute 50% of total sales, and that the fixed expenses total \$100,000. Then $\$100,000 \div .50$, or \$200,000 worth of business, will constitute the deadline at which that part of the sales receipts applicable to fixed expense and profit will just cover fixed expense. On any business above this \$200,000 which takes care of the fixed expense, a 50% profit will be earned.

One method by which a division could be made between fixed and proportional expenses would be to go through the various expenses, item by item, and classify them as fixed or proportional. Many expenses are of a mixed nature. Thus the expense for power in a factory increases as output increases, but not proportionally, since a certain amount of power is absorbed in keeping the dead load of shafting, pulleys, and belts moving. Such expenses would have to be divided on some measured basis between fixed and proportional expense. Williams' method is to compare conditions at two different levels of sales and, by a simple algebraic process, separate out the common element of fixed expense. A case of this character is worked out in Table 2.

If a difference of \$65,000 in expenditure produces a differ-

TABLE 2

WILLIAMS' FORMULA FOR DETERMINING SALES NECESSARY TO
MEET FIXED EXPENSE, AND FOR CALCULATING
APPROXIMATE PROFIT

Total Sales (a)		Total Expense Shown by Books (b)	Computed Proportional Expense (c)	Computed Fixed Expense (d)	Profit (e)
High.....	\$350,000	\$275,000	\$175,000	\$100,000	\$75,000
Low.....	220,000	210,000	110,000	100,000	10,000
Difference..	130,000	65,000			

ence of \$130,000 in net sales, the proportional expense is $\$65,000 \div \$130,000 = 50\%$ of sales, giving the variable expense shown in column (c), and the fixed expense of \$100,000 shown in column (d).

WORKING CAPITAL

That part of the total capital investment which is in active circulation is known as working capital, as distinguished from the fixed capital tied up in relatively permanent assets. As has been pointed out, the distinction is one of degree and convenience only, since with few exceptions all parts of the investment are undergoing a turnover, which may vary from 50 times or more per year in the case of quick-moving inventories of merchandise, up to once in 50 years in the case of standard cement or stone buildings of certain types. Included in the items usually designated as working capital are cash on hand and in bank, negotiable securities which may be realized upon at short notice, inventories of work in process, accounts receivable, notes receivable, and similar items. These are quick assets, normally realizable in the course of a few weeks or months, and, therefore, of special interest to a lender of money to the business, who wishes to assure himself that funds will be available to repay the loan when it is due. The general definition of working capital is the

difference between quick assets and quick liabilities, representing the amount of the owner's money, actually in quickly realizable form.

The proper management of this working capital constitutes one of the major problems of any business. The amount which it is necessary to employ depends upon a number of elements, shown in the following list:

1. The scale on which business is done.
2. The credit terms of purchase and sale. Very heavy capital, proportionally, is required for the furniture business on account of the general practice of instalment sales. Working capital may actually with safety be a negative quantity, as in the case of a firm which sells for cash only and, consequently, is financially able to buy on favorable terms of credit.
3. The length of time material is in process, in a manufacturing business. Nursery stock, such as trees and shrubs, although its principal cost is the labor cost, must be grown along for two or three years before it is ready for market. Relatively more working capital is needed than in a public service company, in which the product, power, or gas, is delivered as made and the large investments are in the fixed assets, the relatively small investments in the coal pile and in customers' accounts constituting the principal items of working capital.

It may be necessary to carry comparatively large stocks of raw material because of uncertainties in delivery or price. It may be considered advisable to carry very complete stocks of part-finished or finished goods, in order to expedite deliveries or permit economies by manufacture in large lots.

The size of the inventory is also of importance to the retail store. It is said Marshall Field & Company carried for 30 years some portions of a stock of rare laces bought in the Columbian Exposition in 1893. Probably, of course, the actual investment had been turned over before that time

because of the large profit usually obtainable on such articles. The turnover is much slower in many retail lines than in others. It is very rapid in groceries and meat markets, much slower in jewelry stores, furniture stores, and other establishments which must carry large selections of expensive goods.

Sammons¹ gives the results of investigations made some years ago by *System* which illustrate representative *stock* turnover figures for retail stores, as shown in Table 3.

TABLE 3
RETAIL STOCK TURNOVERS

Line	Average Annual Stock Turnover
Clothing	2.0
Drugs	4.5
Department stores	7.0
Dry-goods	4.0
Furniture	3.0
Grocery	10.0
Hardware	3.5
Jewelry	1.5
Shoe	2.1
Variety goods	6.0

J. H. Bliss² gives typical inventory turnovers in representative lines, from which a few illustrations are reproduced in Table 4, on the opposite page.

4. Working capital requirements are also affected by seasonal variations in sales or production, both in volume and in ease of control. The straw hat business must have available each year a considerable sum to finance the preparation of its stock during a period when no money is being received from sales. The toy business, the musical instrument store, the real estate business, the clothing business, are among those subject to considerable seasonal fluctua-

¹Sammons, Wheeler, *Keeping up with Rising Costs*, A. W. Shaw Company, Chicago.

²Alford, L. P., *Management's Handbook*, Ronald Press, New York, p. 250.

TABLE 4
REPRESENTATIVE STOCK TURNOVER

Automobiles and truck manufacturing.....	3.17
Coal—anthracite	14.22
Electrical machinery manufacturing.....	2.67
General merchandising	5.42
Leather manufacturing	1.55
Mail-order merchandising	4.03
Machinery manufacturing	2.16
Slaughtering and meat packing.....	7.48
Average of 24 lines.....	4.21

tions. Few businesses are entirely exempt from these seasonal peaks and valleys. It is often profitable to take on business during off seasons, at only slightly more than the direct cost of labor and materials, in order to keep an organization together and contribute something to help in carrying the fixed overhead.

The principal problems in management of working capital are those concerned with estimating and anticipating requirements for money, and with reducing by good management the total amount necessary. Careful buying, an effective system of production control which moves material rapidly through the factory, judicious extension of credit, and active collections are among the important means for increasing the turnover of the working capital.

FIXED ASSETS

In most businesses the management of the investment in fixed assets requires attention at less frequent intervals than does the working capital, but it may be said to follow somewhat the same general principles. Unless new capital is supplied by investment or by retaining profits in the business, any purchase of additional equipment or other fixed assets inevitably reduces the working capital. Sometimes this reduction may be disastrous, if the necessary working capital cannot be replaced. The general rule for

correct capital investment is that the investment is justified if the earnings of the new equipment or other proposed investment are, all things considered, greater and likely to remain greater than could be secured by the use of the same money in other ways such as in working capital, and if the money is available without undue disturbance of the company's working funds. An analysis of the balance-sheets of large and small businesses discloses a noticeable tendency for capital turnover to decrease as the company increases, due to the increasing proportion of the total capital sunk in permanent plant, in good-will advertising, and in other forms. Part of this reduction in turnover is compensated by greater profit per turn, made possible by more economical methods of production and distribution. Part of it is in many cases unquestionably due to expansions made in ill-advised moments of enthusiasm, or to an unwillingness to write off equipment which is actually obsolete. Generally it should be the policy to discourage capital investment except for a distinct showing of economy, for the larger the fixed investment, the larger the fixed charges and the more vulnerable the company is at times of slow business or if changes in process or demand render part or all of the investment obsolete.

XI

FINANCIAL MANAGEMENT

The unmanaged business. Forecasts of operations. The budget in financial planning. Borrowed funds. Sources of borrowed funds: trade credit; bank credit; short-term notes; corporate bonds or mortgages. Surplus and dividends. Reserves. Increasing turnover. Setting prices. Volume versus unit profit. Keeping the business in balance.

SOME one has said with a good deal of truth that if general management is rightly attended to there is no problem of raising funds in a business. There are occasions, of course, when an increase of capital stock is advisable, and times when borrowing is necessary, and there is in every business the necessity for adjusting expenditure and income to each other. But in a well-managed business financial problems are certainly less pressing than where skill in borrowing money is relied upon to compensate for weakness in credit management or other branches of the business.

THE UNMANAGED BUSINESS

Occasionally one happens across a business that seems to lack even the rudiments of financial planning. The proprietor goes along from year to year without knowing whether he is making or losing money, buying goods on impulse or under the persuasions of a "high-pressure salesman," paying bills only on the imperative demands of creditors, sometimes getting deeper and deeper into debt until the inevitable day of reckoning comes. It seems often to be the fact that the more desperate becomes the plight of a business, the less attention its owner pays to it. The business becomes a disagreeable subject, avoided as far as possible, and although the man knows that he is not doing well, pride,

inertia, incompetence, and the hope that "something may turn up," keep him drifting into deeper and deeper involvements.

Sometimes a successful business is run in almost as haphazard style. With an adequate margin of profits and fairly well-established and unchanging market conditions, the proprietor may get into a sort of routine, buying and selling about the same from year to year, carrying a sufficiently large cash balance or amount of liquid assets to meet bills as they are due, without special planning.

The limitations of such unsystematic planning are obvious. It is safe only when there is a comparatively large margin of surplus cash or assets, with correspondingly reduced turnover. It becomes dangerous or impossible as large-scale operations are undertaken, and is at all times subject to a certain hazard that the proprietor will be caught napping. Yet with all these drawbacks, its simplicity and easiness make it common, and it often suffices under the conditions referred to.

FORECASTS OF OPERATIONS

A more complete control is obtained when the management periodically forecasts income and plans outgo to correspond, without subsequent control except to see that general plans are followed and to readjust these plans if any serious change occurs in the situation. Probably a majority of businesses are run on this basis, the forecasts varying from offhand estimates to accurate and complete analyses of past expenses, of the financial implications of plans for the future, and of the general financial situation as modifying the plans developed from past experience.

In the typical estimate of this type the expected receipts will be taken up first. The experience of the company, analyzed by districts, by products, and by salesmen, will indicate quite closely the normal demand for this article and that, and the normal volume of business each salesman

is capable of securing. Correcting factors will be applied. If business is poor, say 80% of normal, and indications are that it is likely to be worse rather than better, the estimate will be discounted somewhat, or means taken for securing extra selling pressure. If one salesman has shown a steady increase in sales, and another is about stationary, corresponding allowances will be made. Other allowances will be made for the waxing or waning popularity of the various lines of goods handled, for the probable effect of competition, for the influence of proposed advertising and selling campaigns. The plan commonly followed is to ask each district manager to prepare an estimate, with the salesmen's help of the probable business from his territory for the coming period. The estimates of the district managers are revised and combined by the general sales manager.

Next comes the expense forecast. An organized statistical and accounting service is able to develop for a business, as time goes on, pretty definite experience figures as to the unit costs of advertising, selling, and other expenses to secure a given return. Cost figures are available to show the expenditure involved for raw material, labor, and other items. Subject to the inevitable but partially predictable effects of changes in price, demand, and other uncertain factors, the costs of operation can be fairly accurately estimated for a going business.

Not only the amount, but the time at which this money is received and must be paid out, must be known. A graph showing the month-by-month sales will indicate the probable distribution of sales, subject to corrections for expected variations. Collection experience may be shown by a similar graph, or by applying known standards of the average length of time between sale and payment. The maturity of existing financial obligations, the times at which material bills must be paid, the amount of the pay-roll, the plans for, and costs of, expansion of capital assets, all these are known and may be so adjusted as to give the most harmonious program of income and outgo which is possible.

THE BUDGET IN FINANCIAL PLANNING

The forecast, as thus made, may be laid aside except for occasional reference, having served its purpose in informing the management of the things for which provision must be made. If this carefully prepared estimate is set up as a specific guide to operations, it becomes what is known as a budget. In this form the estimate is made department by department, covering the activities and expenditures of the department. It embodies the results of a conference between the department head and the financial executive or budget committee, in which the plans and expectations of the department head are harmonized with those of other departments and of the general executive into an orderly and harmonious program. The value of such coordination, in securing a balanced program of activities, is apparent. It curbs the tendency of the ambitious department head to overextend at the expense of other activities, and sets a reasonable but stimulating requirement for the timid or the indifferent.

These department budgets, thus approved, constitute thereafter, for the period, definite expenditure authorizations, which may not be modified except with the approval of the general management or the director of the budget. Requisitions and expense authorizations from a department head are checked against the budget account before being approved, and if this account is overdrawn for the period, they must be justified to the director of the budget or the general manager, before they will be passed. An emergency fund is provided which may be drawn upon by executive authorization if any department needs to exceed its budget allowance.

This is the form in which the budget is typically used by government bodies and other businesses with a relatively fixed or known income. Even with the emergency fund, a budget of this sort is apt to prove too inflexible for the average business, subject as it is to large and often wholly

unpredictable fluctuations in receipts. To make the budget flexible enough to meet this difficulty, one method is to base the budget on a series of income steps, one plan of expenditure being authorized for a department for a given volume of sales, a larger expenditure with increased sales, and so on. Or a given budget may be corrected for variations in sales on the basis of the increase in variable expense, along the lines worked out in Williams' formula given in the previous chapter.

There are many evident advantages in the use of the budget plan of controlling financial and departmental operations. It coordinates and balances the various activities, as mentioned. It focuses the attention of the whole organization on the analysis of experience, on the development of known constants which eliminate much of the guesswork of business. It insures systematic consideration of all factors in the future business situation, making it much less likely that some important factor will be overlooked. It gives the executive a definite means of knowing that a plan is being followed which will insure an approximately known profit, and of knowing that if conditions make it impossible to carry out all plans, he will automatically be notified of the need of change.

On the other hand, many budgets have been started with enthusiasm which were never looked at again, or were followed out with disastrous effect on the business. A foundry concern started a budget plan and furnished its purchasing department with a schedule of deliveries to be followed. This schedule was followed, but the schedule of sales was not realized, and the company found its finances seriously unbalanced for a time by an overstock of materials.

There appear to be only two fundamental objections to the plan, neither insuperable. Budget administration does increase clerical and overhead expense, although less so in a business already well organized as regards records. And it does hamper freedom of action, to the extent that it is necessary to secure executive authorization before changing the

authorized plan. Quite as good a case might be made for this point as an advantage, however, for if the budget is taken seriously, plans will be more carefully made, with resulting benefit in increased accuracy. Other objections or difficulties with the budget in the main arise from the fact that the organization does not have the information and has not developed the standards of practice which make intelligent prediction possible, that it does not understand the requirements for checking and revision of the budget, or that its personnel (including often the manager) is not disciplined sufficiently to secure adherence to a decision once made.

The test of a good plan is not that it shall completely embody every known refinement of management, but only that it shall be adequate to produce the desired results, and the simpler the system can be and still do this, the better. The preparation of careful forecasts, with attention to subsequent developments, may serve the requirements of many businesses quite adequately.

BORROWED FUNDS

When a business is of seasonal nature, it must usually either let part of its capital lie idle for part of the year, or it must borrow additional funds to furnish working capital during and in preparation for the busy season. It is profitable to borrow when, risks considered, a greater return can be earned on the money than need be paid for its use. This is true not only of seasonal but of more permanent capital requirements.

Borrowing, of course, subjects the firm to a fixed obligation as to principal and interest which it may be difficult to meet if expectations as to income are not realized. If this fixed obligation forms too large a portion of the income, or if payments of principal are not arranged to be met at maturity, any trifling upset of income receipts may make it necessary to default in payments, or to refinance by borrow-

ing additional funds under very unfavorable conditions. For this reason it is not advisable to permit too large a portion of the total capital to consist of borrowed money. The experience of some firms as to normal ratios is indicated in Chapter XIV. Up to this danger point, the larger the borrowings, the larger the turnover of net worth, and, as long as profits safely exceed interest rates, the larger the profits.

SOURCES OF BORROWED FUNDS

Borrowing requirements may be classified according to the length of time for which they are needed. In order of the usual term of the loan, the most usual sources of borrowed funds may be listed as follows:

Trade credit. Credit of from 30 to 90 days or more, the shorter terms being the more common, is usually given in ordinary commercial buying. A discount for cash is usually offered and the buyer has the option of paying within 10 or a fixed number of days and taking the discount, or of letting the bill run the full term. The latter form of borrowing entails a high interest rate, as will be mentioned in a succeeding chapter on "Collections." It may be permissible as an emergency source of credit for short periods.

Bank credit. Bank credit will be more fully discussed in Chapter XVII. The commercial bank is usually prepared to loan money up to 20% or 25% of net worth, to acceptable borrowers, on notes for periods of 30, 60, or 90 days and will usually renew these notes by previous arrangement for periods up to a year. Like the preceding, bank credit is for short-term or current capital requirements only.

Short-term notes. Notes for 90 days up to one or more years may be sold to the investing public through the agency of professional firms of note brokers which make a specialty of this business.

Corporate bonds or mortgages. Bonds for a term of 5 years or longer, secured by mortgages on real estate and

plant, or on specific equipment, or on the general assets of the company, are the usual means of raising money for longer needs. The use of bonds to finance improvements is desirable, where their issue does not crowd over the danger line, an already weakened ratio of owned to borrowed money in the business, and where there is a reasonably safe expectation that the new investment will be profitable, and that the profits of the business will be sufficient, during the term of the bonds, to meet all current obligations and build up a reserve sufficient to retire the bonds. Bonds are also used by many companies such as railroads and public service companies, with the expectation of refunding them by the issue of new bonds on the maturity of the old. This class of corporation has the reputation of being stable income producers, there is a dependable market for their bonds, and frequently a large part of the total assets is virtually the property of the bondholders.

A bond is a form of promissory note executed under seal, usually but not necessarily secured, usually for a long period, five years or over, and usually one of a series of similar bonds, of fixed amounts such as \$100, all bearing the same rate of interest, and all participating equally in the security given for the whole issue of bonds. As mentioned, a trustee is named to represent the bondholders in declaring default, enforcing the provisions of the bond and distributing the proceeds of sale of the security *pro rata* among the bondholders.

The security given for a bond varies. The mortgage bond is secured like a mortgage note, by a mortgage upon specific real estate or other property. A collateral trust bond corresponds similarly in security to the collateral note. A debenture bond is one assigning no specific security but backed by the general credit of the company. In case of default, bondholders would be in the position of holders of an unsecured note, taking their turn with other general creditors.

Bonds are drawn with a great variety of securities and

usually with various stipulations for the protection of the bondholder. One common provision is that the bonds are issued in series, part, say \$25,000, to be drawn by lot and repaid at the end of the fifth year, another \$25,000 the sixth year, and so on to \$30,000 yearly at the tenth year, and annually thereafter or as the case may be. Or the company may obligate itself to build up a reserve or to set aside funds for the retirement of the issue. Provisions limiting the amount of bonds which may be subsequently issued; provisions to the effect that a certain ratio of quick assets to quick liabilities, say two to one, will be maintained as a minimum; provisions naming the conditions as to surplus which must exist before a dividend may be paid, illustrate a few of the various precautionary measures often arranged to protect the bondholder.

Bonds are often used in large-scale buying, somewhat as acceptances are used in smaller, current deals. For a railroad or an electric power central station, acceptably rated, large manufacturers will frequently deliver equipment and accept in part payment equipment trust bonds, the locomotives, cars, dynamos, and so forth, being pledged as security and often being marked with an attached plate so stating. These bonds are then sold to banks or note brokers just as acceptances are discounted at the bank.

Bonds constitute a lien on the property named in the bond, which takes precedence over other unsecured debts in case of a default in payment by the company. Second and third mortgages may be given as security for corresponding bond issues, such mortgages having the respective order of claim on the mortgaged property. Since a second or third mortgage is not as good a security as a first mortgage, refunding operations are often undertaken by a company, already subject to a small mortgage, which needs more money. A new issue is made, large enough to cover both the existing debt and the new need for money, and on its sale the smaller issue is paid off or retired, improving the security of the whole of the larger issue. Such mortgages are often of the

“open end” variety. An issue larger than present requirements may be arranged for, only those bonds being sold for which there is a present need. Or provision may be made in the terms of the agreement, authorizing the issue of additional bonds as needed up to a prescribed amount.

Retirement of the bonds is often provided for by arranging for a sinking fund, or by issuing the bonds in series, a portion being retired each year.

SURPLUS AND DIVIDENDS

The proper management of surplus has much to do with a company's success or failure. The process of circulation of the assets of the business, referred to earlier in this chapter, is not merely circulation, but is accompanied by a certain unavoidable amount of waste or leakage, is subject to sudden contraction and losses from price movements, changes in demand, and so forth, affecting values, and is also, fortunately, normally accompanied by a gradual increase in volume in the form of profits. These profits do not ordinarily accumulate in cash but are represented by a general addition to assets, larger inventories, and more equipment.

The accumulated difference between assets and liabilities, including capital stock, may be defined as surplus. At the discretion of the board of directors this surplus or any part of it may be divided among the stockholders as a dividend, *pro rata* on each share. The declaration of dividends is discretionary, subject to contract rights of preferred stockholders and to the right which any stockholder has, to compel payment by court action should there be evidence of fraud, mismanagement, or inequity. With a corporation, as with an individual, a spendthrift policy is seldom the best. Frequently the profits of the company could be largely increased and its position made much stronger by retaining in the business, and reinvesting, the profits. On the other hand, stockholders are frequently far from unani-

mous as to the advisability of this policy and have a perfect right to ask for their returns as earned. Sometimes, indeed, "a bird in the hand is worth two in the bush."

In the case of a so-called "closed corporation," whose stock is held by a few individuals and is not offered to the general public, the stockholders will usually be well informed as to the company's affairs, and a great deal of latitude is possible. Where the corporation's stock is widely held, the position of its stock is usually much better maintained if it is known as a consistent dividend payer, and in such cases it is advisable, if possible, to pay regular, conservative dividends, building up a surplus which assures the payment of the usual dividend even in lean years. Larger dividends can be declared from time to time ("cutting a melon," to use the colloquial parlance of Wall Street) as the surplus accumulates in excess of requirements.

The dividend policy is also affected by the income tax and other tax regulations. The Revenue Act of 1924 prohibits the retaining of a surplus by any corporation in order to avoid the imposition of the surtax upon its stockholders or members, and imposes a penalty of 50% of the amount of the tax otherwise due, for such retention. This does not prohibit the use of surplus funds for proper and necessary expansion of the business or other necessary purposes.

Stock dividends are frequently resorted to where it is desirable to retain most of the surplus for expansion of the business. A stock dividend does not increase the value of the stockholder's holding, for it is simply a *pro rata* issuance of shares, representing a surplus which is already his. It does, however, permanently dedicate that portion of the surplus thus divided, to use as capital in the business, and the amount will no longer be shown as surplus, but as capital stock. Declaration of a stock dividend is often advisable as giving impatient stockholders tangible evidence of a sort, of the fact that the value of the holding is actually increasing and the company prospering even though no cash is forthcoming. A better price can also usually be realized in

selling two or three shares of stock at or near par, than at the price of two or three times par for one share, which would be justified by the surplus showing. Stock dividends are not taxed as income to the individual, since income is realized only when a cash dividend is paid from profits or stock dividend shares are sold at a profit.

RESERVES

It is possible for a business to show what appears to be a good profit, and at the same time actually to be losing money. To use an extreme but not uncommon case, mining stock may pay apparently very handsome dividends for a few years while actually the combined outgo due to expense plus depletion of the ore bodies means that the mine is yielding less than was paid for it. In order to provide for this type of expense and for other purposes such as the meeting of contingent expenses, reserves are frequently set up, which in reality constitute a special earmarking of the surplus or of other values in the business.

One of the most common is the reserve for contingencies, an amount set apart from surplus to absorb unexpected but possible losses in the course of business operation. Thus in the case of patent litigation, a reserve might be set up to cover the probable expense of the litigation and loss of value of the patent in case of an unfavorable decision by the court.

Neither the surplus nor the reserve is necessarily or usually in the form of cash. It is being employed in the business, in the regular circulatory process by which assets are made to earn a profit. To pay a dividend or to realize and apply a reserve it is therefore necessary to arrange for the conversion of some property into cash, either by withdrawing the money from its circulation as working capital or by the sale of some of the assets of the concern. It is not always convenient to do this immediately, and we, therefore, sometimes observe the apparently anomalous but often

justifiable procedure of borrowing money to pay dividends, or paying them in "scrip" or notes. Occasionally they may be paid in property. Regular dividends may not legally be declared by the directors except from earned surplus, but in the case of dissolution of a company, the property is liquidated or divided and distributed, in a final division or dividend, to stockholders.

INCREASING TURNOVER

Capital and stock turnover have already been defined and their significance discussed. The problem of securing a good turnover, one of the basic problems of management, has both a financial and a merchandising implication.

There is a proverb, "well bought is half sold." Good merchandising management involves judgment in the selection of lines which will sell readily, and in accurately estimating the probable sales in these lines.

Control of inventory is not less important in the manufacturing business than it is in merchandising, but the problem is simplified somewhat by the fact that there is relatively a smaller number of lines of goods than in merchandising. Here, however, attention must be paid to the avoidance of obsolete and slow-moving lines of goods. A policy of standardization assists very materially in reducing the loss which is almost certain to occur when a model is changed or discontinued, due to old stock in dealers' hands which becomes practically dead the moment the new pattern comes on the market, and to the accumulation of parts, replacements, and stock which it is difficult to clean up once a model is withdrawn.

Turnover in manufacturing is affected largely by the time in process. In the making of automobile bodies a very large amount of space is required for the bodies which are being painted, the body having to stand from a few hours to two or three days to dry after each coat of paint or varnish. A varnish maker who could produce a quicker-

drying varnish of the same quality and effectiveness would have a strong selling argument in pointing out the saving in time and floor space and investment in stock in process which could be made by its use.

An amusing illustration of unbalanced buying which decreased turnover is the case of a local hardware merchant who placed an order for enough garden watering cans to supply all business needs of the city for 20 years. It is easy to find numerous less extreme examples of overbuying. Such overbuying not only unfavorably affects turnover, but is likely to decrease profits or wipe them out altogether on that particular purchase, because the article, if not staple, may quickly go out of fashion. Since the demand for so many lines is affected by changes in style or in tastes of the public, a merchant's efficiency may be measured in one direction by the accuracy with which he predicts and provides for such changes. The tendency is constantly to hazard less on style or seasonal products, to buy frequently and in small quantities, perhaps only carrying samples on the sales floor and carrying little or no stock ahead in the warehouse. Even with the most careful of buying, however, mistakes will occur. The cautious merchant avoids a second mistake by recognizing the initial error and disposing of unsalable goods by special sales at whatever sacrifice may be necessary to move them. The unsalability of the article increases as time goes on and ordinarily there is no gain from holding it. If it is not disposed of, more and more capital is tied up and becomes inactive, till an analysis of the facts behind an apparently good balance-sheet may show that it represents almost wholly dead merchandise. The modern merchant does not follow the policy of the country storekeeper who in the seventies for many years held on his shelves faded cotton print goods, bought at the exorbitant prices of the Civil War period, because his business training would not let him sell goods for less than he paid for them.

A good illustration of the value of a policy of close con-

trol over inventory is furnished by the Nash Motor Company. The Nash Company bought out another concern during the early years of the war. At that time the old company had several hundred cars made up to stock and stored in unheated, concrete buildings. The sudden interruption of trade caused by the war made it almost impossible to dispose of the cars. Thus not only was there a loss of profits which might have been made had the money been kept in use, but the cars themselves suffered so much depreciation that before they could be sold it was necessary to refinish many of them. The present policy of the company is in general to manufacture only in accordance with orders received. The notable advance in the value of the company's stock seems to testify to the soundness of this and the company's other policies.

SETTING PRICES

Price-setting is an important problem of management and is often a perplexing one. At first glance there seems to be no simple or universal rule which can be followed in setting prices. In retail-store merchandising a rule often followed is to add to the cost of the article a mark-up or percentage sufficient to cover the expenses of doing business and the profit. Thus with annual sales of \$25,000, annual expenses and profit of \$5,000, the average mark-up would have to be 25% of the cost (\$20,000) of the merchandise. But the uniform mark-up system is seldom followed in practice, although it is a useful guide in making prices. Competition often forces the price of staple articles below the average figure, while on novelties and specialties several times the average mark-up may be obtained. In other words, the merchant usually charges as large a price for his goods as he can, consistently with ultimate profit, knowing that a part of the excess profit will certainly be absorbed by losses of one sort or another which cannot often be escaped.

While, therefore, the profit on a particular article in the

store or the manufacturer's catalog seems to have little relation to costs, economics tells us that in the long run the price of any article tends to approximate the cost of manufacture and sale by the marginal, or least efficient, producer. Prices are set by a system of offer and counter-offer, which now takes place directly between buyer and seller, and again is represented by the system of trial and error by which the merchant tries one price, and if the goods do not sell, tries a lower one, until he reaches a point at which a sufficient response is obtained. When prices are in equilibrium for any situation, enough is offered on the market and absorbed by buyers barely to support the least efficient producer, and barely to satisfy the existing demand. If the price is raised, the marginal user decides that he can do without, and a surplus is left until the price is bid down to a point where buyers can again be found for all of it. If demand increases, prices will go up until new producers are attracted, resulting in a new equilibrium.

This is the generally accepted theory as to the factors determining prices. Many complicating factors enter. In large masses the impulses of people can be counted to average out and approximately follow a uniform law. In detailed cases, so many confusing and unpredictable factors enter that the prediction of price has many of the elements of chance, as defined in Chapter VII. A buyer's strike does not automatically follow the law of supply and demand, rather, when a group of people decide that the price of eggs is too high, that the supply is being artificially manipulated, we have a sudden artificial manipulation of demand. Demand, too, is only partly predictable. One cannot be sure just when some new manufacturer who is informed accurately neither as to profits nor as to volume of possible business, will try to get a foothold, and, for a year or two, unbalance supply and depress profits to his own eventual ruin and to the loss of all. Demand, too, is subject to unaccountable whims that follow no law except the law of group suggestion and the law of satiety. There seems no end to

the demand for laces, and the storekeeper stocks them heavily, perhaps only to find that almost overnight laces are passé and his stock is dead.

The operation of the balancing forces of supply and demand is subject to a certain lag, arising from several circumstances. A high price does not attract just the right number of producers, it attracts too many, so that the shortage is often followed by a glut. And if potatoes are plentiful and cheap this year, the disgusted farmers will all turn to another crop next year, so there is likely to be a scarcity. The effects of oversupply are apt to persist for some time also, since oversupply usually is accompanied by a commitment to capital expenditures and it is cheaper to overproduce at a small loss than to let the plant stand idle. Thus in a housing shortage too many dwellings are often put on the market, and the glut thus created is apt to persist for several years, until the population expands or the older houses become untenable.

With these various complicating elements, pricing goods has in it at best a good deal of the element of trial and error. The business man knows approximately the prevailing market price and he is guided by this in his decision. If demand is brisk, he may raise the price; if slow, he will reduce it.

VOLUME VERSUS UNIT PROFIT

The price of an article at any particular instant is not usually a single point but a range. With staple articles this range is narrow or may contract to a single point; with more individualized products the difference between the high and the low price may be considerable. The factors affecting decision as to whether to sell at the higher or lower portions of this price range are conventionally represented by the type of diagram shown in Figure 10.

The most profitable price would be the one at which the product of unit profit and of number sold would be the greatest. In the illustration given, a price of \$12.25 would

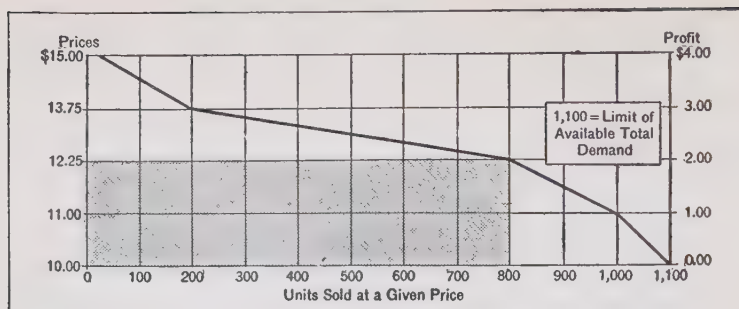


Figure 10: Chart showing point of greatest profit per unit sold at a given price.

yield the greatest profit, since above this price the demand falls off rapidly; below it, it increases only slightly and a point may be reached at which further concessions in price have only a negligible effect on demand.

The decision is not, of course, actually as simple as that shown. Demand may actually be increased by charging a higher price because people think they are getting a better quality. Some of the big retail clothing houses, during the buyers' strike of 1920, cut the prices of suits from \$75 or higher, to \$40, but found that they sold less at this price than at the old price and raised the price again, because people thought there must be something wrong at so low a price. The manufacturer of a famous safety razor, in a day when there was keen competition among makers of dollar razors, raised his price to \$5, and immediately sold razors to thousands of men who would not be seen using a dollar outfit when a \$5 set was available. It was, in addition, a better razor, although not much costlier.

There is an advantage, especially with the retail trade, in being able to hold to a fixed price. Year after year, 5 cents has continued to buy a package of Cracker Jack, \$100 a standard typewriter. Such a price, of course, cannot easily be maintained in a keenly competitive market or where costs fluctuate greatly. But where the price can be stabilized, it eliminates haggling and tends to prevent put-

ting off purchase because of the feeling that something may be gained by shopping around or by waiting.

The price question can be decided only in the light of the company's general policy. Many concerns make their selling appeal on the basis of price, others on the basis of quality and reliability. Each has its appeal and its legitimate place.

The lowest grades of merchandise in almost any line, outside of very highly standardized ones, will usually show the debasing effect of price competition. A recent article in the *Saturday Evening Post* gives some interesting illustrations in the case of low-price revolvers exported from Spain, which are often exact imitations of well-known brands of weapons, highly finished, but made of inferior steel, crudely rifled by hand punches or rifled only at the front and back of the barrel. And it is unfortunately not hard to find numerous examples of goods made only to sell at a price.

There will, of course, always be a demand for cheaper goods, for temporary use, or by people who cannot afford to pay for the greater comfort or service of high-grade articles. The supplying of this demand is legitimate, in so far as the goods honestly reveal their real quality. It is therefore often advisable to offer several grades, in a price range whose steps correspond in general with the established prices. The customer then has a chance for comparison, which may convince him of the greater value of some particular quality for his purpose.

One system of price-fixing is often used where costs are uncertain, as in making estimates on construction work. Here the "cost plus" plan provides a mutual protection against the uncertainties of the undertaking. The agreement is that the price paid for an undertaking shall be the total audited cost of the work, plus an agreed percentage of profit. With a conscientious contractor, the "cost plus" method may be the most economical method of having work done, since it relieves the contractor from the necessity of making his bid high enough to cover uncertainties, many of

which do not develop. This type of contract is subject to the objection that it makes it to the interest of a careless or unscrupulous contractor to run the costs up. This abuse was very frequent on government contracts placed on this basis during the war.

KEEPING A BUSINESS IN BALANCE

The financial management of a business may well be summarized by emphasizing the importance of a well-balanced program. Proper balance between dividends and adequacy of capital, proper balance between unit profit and volume, in price-fixing, a balanced program as to the proportions of fixed to working capital, and a well-balanced and active circulation of money in the various asset divisions are among the essentials of sound financing. The rule of balance applies, indeed, to all the activities of the business, and a chief function of the managing executive is to secure it in the business.

XII

THE MECHANISM OF ACCOUNTING

The importance of accurate information. The method of accounting. The books of account. Capital and expense accounts. An illustration. The balance sheet. The income statement. Controlling accounts.

WITH the rapid capital turnover which is one of the marks of a well-managed business, and with the low margin of profit on which it is often necessary to do business, a comparatively small shift in costs might, if unnoticed, cause a loss which would be multiplied with each turnover. Up-to-date information as to what is taking place in the business becomes imperative if risk of loss is to be minimized and full advantage is to be taken of the earning capacity of the business. This information it is the function of accounting to give, and the business man is severely handicapped who does not understand the theory of accounting and have a sufficient familiarity with its practice, for the purposes of his business. He should be able intelligently to direct the organization of accounts to furnish him needed information, and to interpret clearly the various accounting reports and summaries, which tell the story of the business more clearly, comprehensively, and accurately than does any other known device.

Accounting was known to the Phoenicians, and, on clay tablets and papyrus rolls recently discovered in Egypt and Asia Minor, there have been deciphered business letters written thousands of years ago, which make references to accounting transactions. Until recently accounting was primarily a matter of record of the obligations and the accounts payable and receivable between parties, or of the obligations of partners. The function of analysis, which is

now so extended and important a part of accounting, was comparatively primitive and undeveloped. The impulse which the methods of science gave to the art of management has been felt in accounting also, and recent decades have seen the evolution of a method of accurate analysis which reveals a great mass of information about which the business man formerly had only guesses to rely on, or whose significance he did not suspect.

THE METHOD OF ACCOUNTING

The first stage in accounting is the recording of the fact. This is done by the method of double-entry bookkeeping, which is based on a fundamental simple equation of value. This equation expresses the fundamental fact that in any business, assets must equal liabilities, including the investment of the owners. It may be expressed as follows:

$$\text{Assets} = \text{Liabilities to outsiders} + \text{Proprietorship.}$$

This equation again is based on the assumption that in any exchange or transfer of property, the value received equals the value parted with. This equation would not be accurate, were not an element of profit or of loss included as part of the value received or parted with.

As between two independent parties, the one receiving and being charged with a value is known as the debtor, and the one parting with a value, relieved of responsibility for it or given credit for it, is designated the creditor. From the proprietorship equation we may derive the following rules for debit and credit:¹

Debit:

- Increases in Assets
- Decreases in Liabilities
- Decreases in Proprietorship

Credit:

- Decreases in Assets

¹Himmelblau, D., Editor, *Complete Accounting Course*, The Ronald Press

Increases in Liabilities
Increases in Proprietorship

The terms debit and credit have a certain correspondence to plus and minus quantities, respectively. Thus if Smith sells Jones \$100 worth of lumber, the accounts will stand before payment:

June 26 Jones, Dr.+\$100 Smith, Cr.—\$100

The two entries are equal and opposite, and in any set of books which has been correctly kept, the total of the debit, or plus, entries will always balance the total of the credit, or minus, entries.

The same device of recording a transfer of value by the two opposite entries, debit and credit, may be used within a business, in order to permit an analysis of the operations which are taking place within the business. Thus an account may be set up for an imaginary person designated Inventory, who receives goods and is charged with them, disburses goods and is credited with them. The difference between charges and credits indicates at any moment the amount which should be present in the storeroom or inventory.

THE BOOKS OF ACCOUNT

For convenience the first record kept of a transaction is a simple chronological or historical entry of each transaction as it occurs, known as the *journal*. A typical journal entry is shown below, for John Smith, lumber dealer.

In modern practice the journal is usually substantially

Date		Particulars	Debit		Credit	
1925	June 26	R. Jones.....	100	00		
June		To—Merchandise.....			100	00
		Recording the purchase of 2M ft. of lumber.				

modified. The actual journal often consists of an aggregate of several files of original records, one of them the file of duplicate invoices, another the voucher record of payments, another the file or record of invoices and accounts payable, and so on for each of the classes of accounts for which numerous transactions must be entered, with a journal of the traditional type to cover those entries not otherwise provided for. The journal is often modified by providing several columns, by which items may be classified to the proper account as entered.

In order to classify these various transactions they are next posted, or entered, from the journal to a ledger. The *ledger* is made up of a set of accounts, one for each of the real customers or artificial internal accounts with which business is done. Thus in the books of John Smith, there would be one page in the ledger headed R. Jones, with his address and any desired information as to credit rating, terms on which business is done with him, and so forth. The journal entry would appear thus in the ledger:

R. JONES, 216 PLACE ST., STREATOR, KANS.

1925									
June	26	2M ft. of lumber	100	00					

In a similar account for merchandise, the other half of the journal entry would be posted as follows:

MERCHANDISE

				1925					
				June	26	2M ft. of lumber	100	00	

In order to test the correctness of the entries a *trial balance* may be taken off the books at monthly or other regular intervals, consisting simply of a list of the totals of all ledger accounts, in which debit items will, of course, balance credit items if the books are in balance. The trial balance for the partial ledger shown would be:

JULY 1

	Dr.		Cr.	
Accounts Receivable	100	00		
Merchandise			100	00
	100	00	100	00

CAPITAL AND EXPENSE ACCOUNTS

As mentioned in Chapter X, every expenditure judiciously made should result in an increase in the value of the property owned in the business. Actually, however, we do not know, until the whole result of operations is checked up, whether or not the various payments made for expense have been recouped in the selling price received for the goods. In order to separate those transactions which result in realizable values or physical property from those having no immediately tangible or physical result, the device of the expense account is used. Ledger accounts are set up for rent, taxes, salaries, and other items, as if they were property accounts, and they are debited with the appropriate expenses as incurred. At regular intervals the books are closed, balances are struck in the real or property accounts, and carried forward to the new fiscal period. At this time the balances in the nominal accounts are closed into a summary account known as profit and loss.

Mention has been made of the treatment of the expense accounts, which by their nature receive only debit entries except for occasional credits and for the final closing credit to profit and loss. In a simple merchandising business which may be taken as an example, profit, the item which must balance expense, results mainly from the sale of merchandise at a higher price than was paid for it. But in its simplest form the inventory or merchandise account is debited with merchandise received at the cost price, and is

credited at the higher sale price. Therefore, at any time, the book value shown by the merchandise account should be less than the actual cost value, by the amount of the accrued profit. This is then a mixed account, and to separate the element of profit, an inventory is taken when the books are closed, the new inventory value is set up in the merchandise account to start the new period, and the difference, representing property in the business and, therefore, accountable for, is transferred to profit and loss. All the nominal accounts are thus left wiped clean, and the balance in profit and loss, if a surplus, is credited to surplus, or debited to deficit, if necessary.

AN ILLUSTRATION

Let us now recapitulate by setting up a simple set of books for John Smith, and following through a rudimentary cycle of transactions which will illustrate the method of handling a few of the typical accounting entries. It will be of interest to compare this method of arriving at profit by inventory with the method described in Chapter XIII, of direct distribution of costs to the product.

The transactions are as follows:

1. June 10, John Smith puts \$1,000 cash into his business.
2. June 12, he pays \$50 rent for a lumber yard.
3. June 14, he buys \$500 worth of lumber.
4. June 20, he sells half this lumber for \$400.
5. June 30, he closes the books and ascertains his profit by:
 - (a) Taking an inventory, setting up a real account for its value of \$250, and crediting the merchandise account with the inventory value;
 - (b) Transferring the balance in the merchandise account to profit and loss;
 - (c) Transferring the balance in the expense account to profit and loss;
 - (d) Crediting the balance in profit and loss to surplus.

The journal entries are as follows:

Entry No.	Date 1925		Particulars	Debit	Credit
1	June 10		Cash	1000 00	
			To—John Smith, Proprietor . . .		1000 00
			Investment in lumber business.		
2	June 12		Expense	50 00	
			To—Cash		50 00
			Rent of lumber yard.		
3	June 14		Merchandise	500 00	
			To—Cash		500 00
			For lumber purchased.		
4	June 20		Cash	400 00	
			To—Merchandise		400 00
			For lumber sold.		
5a	June 30		Inventory	250 00	
			To—Merchandise		250 00
			To set up Inventory account.		
5b	June 30		Merchandise	150 00	
			To—Profit and Loss		150 00
			To close Merchandise account.		
5c	June 30		Profit and Loss	50 00	
			To—Expense		50 00
			To close Expense account.		
5d	June 30		Profit and Loss	100 00	
			To—Surplus		100 00
			To close Profit and Loss account.		

The entries for these transactions in the appropriate ledger accounts are shown below:

JOHN SMITH, PROPRIETOR

				1925 1-Jun	10	Cash	1000 00
--	--	--	--	---------------	----	----------------	---------

CASH

1925 1-Jun	10	J. Smith, Prop.	1,000 00	1925 2-Jun	12	Rent	50 00
4-Jun	20	Cash Sale	400 00	3-Jun	14	Lumber	500 00

MERCHANDISE

1925 3-Jun	14	Lumber	500 00	1925 4-Jun	20	Sales	400 00
5b-Jun	30	Profit and Loss	150 00	5a-Jun	30	Inventory	250 00

EXPENSE

1925 2-Jun	12	Rent	50 00	1925 5c-Jun	30	Profit and Loss	50 00
---------------	----	----------------	-------	----------------	----	-------------------------	-------

PROFIT AND LOSS

1925 5c-Jun	30	Expense.....	50 00	1925 5b-Jun	30	Merchandise.....	150 00
5d-Jun	30	Surplus.....	100 00				

SURPLUS

1925				1925 5d-Jun	30	Profit and Loss.....	100 00
------	--	--	--	----------------	----	----------------------	--------

INVENTORY

1925 5a-Jun	30		250 00	1925			
----------------	----	--	--------	------	--	--	--

THE BALANCE SHEET

With these entries made, all nominal accounts have been closed and the only open accounts remaining represent actual property or obligations. A summary of these accounts, collected respectively under the headings of "assets" and "liabilities and capital" will constitute a balance sheet, one of the two important standardized forms of report used to summarize the condition of the business for the executive, the banker, and all other interested persons. The balance sheet tells at a glance the present condition of a business, and by comparison with previous balance sheets, indicates the general tendency of the business. The balance sheet for the above illustration is shown below:

JOHN SMITH

BALANCE SHEET, JUNE 30, 1925

ASSETS	LIABILITIES AND CAPITAL
Cash.....\$ 850.00	J. Smith, Proprietor.....\$1,000.00
Inventory..... 250.00	Surplus..... 100.00
\$1,100.00	\$1,100.00

This, of course, is an extremely simple balance sheet, in which none of the usual items of accounts receivable and accounts payable appear. A more typical illustration of the form of the balance sheet is given in Figure 11.

A. B. C. MANUFACTURING CO.			
BALANCE SHEET, JANUARY 1, 1925			
ASSETS		LIABILITIES AND CAPITAL	
<i>Current Assets:</i>		<i>Current Liabilities:</i>	
Cash on Hand and in Banks.....	\$ 5,886,880.53	Accounts Payable.....	\$ 1,734,708.42
Sight Drafts Outstanding.....	636,005.57	Accrued Pay-Roll.....	53,517.00
Receivables Less Reserves.....	2,335,560.52	Reserve for Taxes.....	915,590.26
U. S. Liberty Bonds.....	205,814.69	Reserve for Contract Rebates.....	79,210.00
Inventories.....	7,174,603.55	Total Current Liabilities.....	\$ 2,783,025.63
Total Current Assets.....	\$16,238,864.86		
<i>Capital Assets:</i>		<i>Capital Stock:</i>	
Land.....	\$ 278,891.44	Capital Stock	
Buildings.....	\$2,026,008.88	Authorized.....	\$15,000,000.00
Equipment.....	6,301,320.33	Less Unissued.....	1,125,500.00
	\$8,327,329.21	Capital Stock Outstanding.....	13,874,500.00
Less Reserve for		Surplus.....	5,739,007.36
Depreciation	2,825,294.14		
	5,502,035.07		
Total Capital Assets.....	\$ 5,780,926.51		
Deferred Charges.....	\$ 127,466.67		
Investments.....	249,275.00		
Total Assets.....	\$22,396,533.04	Total Liabilities and Capital ..	\$22,396,533.04

Figure 11: Typical form of balance sheet of a manufacturing company.

The usual order of arrangement of the items of the balance sheet is to group the items by classes, showing, first, current assets, such as cash inventory and accounts receivable; second, fixed assets, such as plant and patents, and so forth. On the liability side, in the same order the quick liabilities, such as accounts and notes payable, come first; then term liabilities, such as bonded indebtedness; then the proprietorship interest consisting of capital stock surplus. Special reserves are best shown as a deduction from the corresponding asset, as shown above.

THE INCOME STATEMENT

The statement of income and expense or profit and loss, as it is usually called, is the second of two standardized accounting summary reports of the results of operation. A form of income statement which shows clearly how the profit was secured is set up by successively subtracting from total income, the expenses of manufacturing, selling, general administrative expenses, and financial and other

expenses, leaving the net profit. This form of income statement is illustrated below:

DOE MANUFACTURING COMPANY	
INCOME STATEMENT, JANUARY 1 TO JUNE 30, 1925	
Sales	\$342,207.66
Less: Cost of Sales	
Materials	\$108,671.95
Labor	54,538.24
Manufacturing Expense	43,119.81
	<u>206,330.00</u>
Gross Profit	\$135,877.66
Less:	
Selling Expense.....	<u>16,154.23</u>
	\$119,723.43
Less:	
General and Administrative Expense.....	<u>54,820.05</u>
Income from Operations.....	\$ 64,903.38
Other Income:	
Cash Discount and Other Miscellaneous Income....	<u>6,842.10</u>
Total Income	\$ 71,745.48
Less:	
Deductions from Income: Interest on Borrowed Money	<u>4,506.00</u>
Profit for Period.....	\$ 67,239.48

Figure 12: Typical form of income statement of a manufacturing company.

CONTROLLING ACCOUNTS

The ledgers of any ordinary business usually contain dozens or hundreds of ledger accounts in certain classes, such as accounts receivable, accounts payable, expenses, and similar accounts. Some method of summarizing these is of great advantage, as it permits the taking of the trial balance to be expedited and greatly facilitates the finding of errors by segregating them to a smaller group of items. A statement may be made up directly from the controlling accounts without listing all the many individual customers' or creditors' accounts, and any one set of accounts, such as the customers' accounts, may be submitted to the verification

of a trial balance with its control account, independently of the other ledger accounts. To secure this result, a controlling account is set up for each of the appropriate classes of accounts. When an item of \$100 is debited, for example, to the account payable of R. Jones, it is at the same time debited to the control "accounts payable." At any time the total balance in the controlling account should then equal the total balances of the subsidiary accounts.

XIII

COST ACCOUNTING

Difference between general and cost accounting. Allocation of expense. The importance of knowing costs. Direct and indirect costs. The allocation of direct expenses. Distribution of indirect expenses: labor-hour system; the production-center system. The cost of idleness. Other applications of cost-accounting methods. Costing by sample. Costs and the general accounts. The treatment of deferred expense. Depreciation. Capital and revenue expenditures.

THE general mechanism of the accounting system, described in the previous chapter, serves adequately to give a general picture of the results of operations. The results of operations are, however, usually a mixed aggregate of individual operations, of various products, selling arrangements, and so on, and for effective, scientific control, further analysis is needed.

ALLOCATION OF EXPENSE

The first problem of accounting, that of recording changes in financial condition, tracing the flow of capital from one form of asset to another, has been described, as far as is necessary to give a bird's-eye view of the function of accounts. The second and more difficult problem is that of allocation of expense, which may be defined as the analysis and separation of the various elements of cost and the attaching of these costs to the product or the period or other unit to which they belong.

A good illustration of the way in which this problem is worked out is given by the system of cost finding. The principles of cost finding may be applied, with suitable modifications to meet the subject-matter, in finding the cost of manufacture, in properly allocating the cost of sales in a

retail or wholesale merchandising business, and, in general, in properly distributing expenses against results.

With a well-worked-out cost system, the system of ascertaining profits by periodically clearing the merchandise account by physical inventory may be dispensed with if desired. The various items of expense, instead of being cleared periodically in a lump sum, have each been prorated or separately attached to the proper product at the time they were incurred. The actual profit may now be ascertained directly for each article or by totals, as the difference between the selling price and the cost, including all these elements.

THE IMPORTANCE OF KNOWING COSTS

In a factory which made, or a store which sold, only one product there would be no need for a cost system, for the cost of making or selling is the total cost. But where several products are made or sold simultaneously, one may be made at a loss while another shows a good profit. It may, of course, be necessary to continue making the losing line because of other reasons, such as service to customers. But one wants to know what one is doing and why, in a case like this. A manufacturer of a patented label decided to enlarge his business and help carry the overhead by adding a few competitive printing lines. A cost analysis showed that for years he had been making around \$30,000 a year, composed of a profit of \$50,000 on the patented line and a loss of \$20,000 on the competitive line. An automobile accessory company is now feverishly looking for lines to take up the expected falling off in business when an important patent which it owns, expires. The importance of a good cost system in giving a sound basis for making bids or prices, in pointing out which of these products should be pushed and which retarded or discontinued, goes without saying.

The cost system is also a very valuable tool for the an-

alysis of manufacturing methods, pointing out inefficiencies, making it possible to compare the results of various methods of operation, departments, and so forth. For example, the methods of cost analysis are now being applied to the analysis of customers' accounts. In addition to the conventional debit and credit record of sales and payments, a memorandum debit is made of direct or prorated selling and traveling expense, of local advertising appropriations, dealer helps, of the cost of claims and returns, of interest and collection costs on overdue accounts, and so on. This record does not necessarily have to be kept continuously; a period of three or four months or even less, taken at intervals, will show very clearly which are the profitable accounts, and which, because of small volume, slow payment, or excessive demands, are unprofitable.

DIRECT AND INDIRECT COSTS

In Chapter X the significance of the fixed and proportional elements of cost was discussed. In running a factory, there are items, such as rent, interest on bonded debt, and the expenses of keeping together a skeleton organization, which go on no matter how great or small the output is, within the limits of the capacity of the particular plant. These expenses cannot, in any true sense, be exactly allocated to this or that product, of this or that period, although, of course, they do have some approximate relationships. At best, the allocation of these expenses has in it a large element of approximation and arbitrary assumption.

Certain other expenses do bear a direct relationship to particular units of product, as is shown by the fact that they vary proportionally to output. Material obviously is a direct cost, save for the usually small item of spoilage, which can at least be applied to each product as an average figure based on experience with that product. Productive or direct labor also needs no argument. Of this type also

are many other expenses, sometimes for convenience treated as indirect, because small or difficult to separate into elements. Wrapping paper is a direct expense, so is the time of the clerk in making a sale, or of a truckman in moving a box of castings. It does not pay to record separately these small items of expense.

THE ALLOCATION OF DIRECT EXPENSES

The problem here is to see that at the time the expense is incurred, for labor or materials, for example, it is tagged so that it can be identified as pertaining to the particular product or unit. To facilitate this, a system of identification of the product itself is necessary, and it is put through the factory in lots, separated according to customer's order, kind of part, and so on, according to what classification will give a homogeneous and useful cost unit. Each of these lots is given an identifying order number.

For each expenditure for material or labor, or other direct expense, a separate record is made. In the case of material, this will be a requisition, giving the necessary details as to kind, quantity, and cost of the materials. In the case of labor, the man or a timekeeper will record the number of hours worked on each job, turning in a time-card for each day or each job, giving this information. This time-card is then priced on the basis of the man's hour or piece-work rate. On each such record of expenditure, the order number of the lot is entered for identification. The records thus made are regularly collected and classified, the expenditure on each lot being collected on a cost sheet bearing the job number. One form of cost sheet is shown in Figure 13.

DISTRIBUTION OF INDIRECT EXPENSES

Labor-hour system. It being impossible or impracticable to identify indirect expenses by particular items of product,

Description Quantity Ordered _____ Quantity Finished _____						Job Number _____ Date Wanted _____ Date Completed _____																											
LABOR COST						BURDEN			MATERIAL																								
Date	Dept.	Man Number	Hours	Rate	Cost	Machine Number	Rate	Cost	Date	Description	Weight	Cost																					
Totals																																	
<i>Summary of Costs:</i> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 5px;">Total labor cost</td><td style="width: 10%;"></td><td style="width: 10%;"></td></tr> <tr><td style="padding: 5px;">Total burden cost</td><td></td><td></td></tr> <tr><td style="padding: 5px;">Total material cost</td><td></td><td></td></tr> <tr><td style="padding: 5px;">Factory cost</td><td></td><td></td></tr> <tr><td style="padding: 5px;">Percentage selling expense</td><td></td><td></td></tr> <tr><td style="padding: 5px;">Total cost</td><td></td><td></td></tr> <tr><td style="padding: 5px;">Selling price</td><td></td><td></td></tr> </table> <i>Remarks:</i>													Total labor cost			Total burden cost			Total material cost			Factory cost			Percentage selling expense			Total cost			Selling price		
Total labor cost																																	
Total burden cost																																	
Total material cost																																	
Factory cost																																	
Percentage selling expense																																	
Total cost																																	
Selling price																																	

Figure 13: Typical form of factory cost sheet.

the problem resolves itself into the carrying of the process of segregation and identification as far as possible, and where this has reached its limit, prorating or dividing the expense on the basis of judgment.

A simple and common system of distribution of indirect expense is the labor-hour method. No effort is made to allocate particular expenses to particular products; the total expense for a period of a month, for example, is distributed to the product on the basis of the number of hours of labor expended upon it, at the rate of so much per hour. In this way, each hour of labor carries its proportionate share of the general burden. Since the rate is based on the previous month or period, but used to distribute the burden of the current period, there will usually be a small plus or minus balance left, to carry to the burden account for the next period. Aside from this, the labor-hour plan of expense distribution attaches the whole expense directly to the product. Whether this is an accurate and correct attach-

ment depends on whether the number of hours worked on a product is a good index of the amount of indirect expense incurred. In a factory in which labor is the principal cost, the method is close enough to accuracy, for many of the expenses for supervision, and so forth, do bear a relation to the number of men employed. It is inaccurate where there is a large investment in machinery, unevenly distributed among the departments.

The production-center system. In this plan an analysis is made of the expense, and instead of being applied on an average basis to the product, each class of expense is segregated as far as possible to the product to which it applies. One may group the expenses of operations into classes, each class more specifically applicable to particular products than the class before. Bond interest, taxes, general executive supervision, the expenses of the general office, of the accounting staff, apply to no one specific product, but proportionally to the whole output. It is true, it may be feasible to segregate some parts of these items, as, for example, time spent by an executive in perfecting and developing a particular product. In general, however, the only thing to be done with this class is to discover the best index of the relation between expense and product, whether it be volume, or value, or hours of labor applied, or what.

A second group of expenses apply to particular departments. The cost of direct superintendence of Department A, for example, or the cost of repairing a particular machine, logically ought not to be thrown into the general lump and averaged over all, but spread only over that particular product affected. And the last group, of course, includes those direct expenses about whose allocation there is no question. No one would propose averaging of labor or material costs as the most accurate method, even though it is sometimes sufficiently accurate to answer the purpose.

Under the production-center plan, each expense is brought as close as practicable to the particular unit of output, and then prorated. The total of the specific expenses,

and of the various shares of prorated expenses, is combined and applied to the product as an hourly machine rate. The machine time is obtained from the time-card. It is priced and extended (as in the cost sheet, Figure 13) exactly as the labor cost is handled.

In making the machine burden rate, the various elements of cost are assessed to each machine or production center exactly as if the machine were a little shop paying rent to the management for leased equipment, floor space, power, and services of supervision. Rent, taxes, insurance, lighting, and similar expenses are charged for on a square foot basis. Machine depreciation is included in the rate. Average power requirements are ascertained by test. Departmental supervisory expense is prorated equally over the various machines or on a weighted basis if experience shows that some machines require more supervision than others. General supervisory expense and the expense of auxiliary departments are similarly prorated.

THE COST OF IDLENESS

Under either of the systems described, the effect of a falling off in sales is to throw the burden of the fixed portion of expense onto a smaller volume of output, thereby increasing the burden rate if expense is to be distributed. If costs are used as a guide in making prices or bids, this will have just the opposite of the practicable effect, for it will tend to increase prices when they should, if anything, be decreased to get business, even at a smaller profit, to help absorb the fixed burden of overhead. Some business men at such times ignore their costs and let common sense be their guide. The losses due to curtailed sales, as a matter of fact, have no relation to manufacturing costs, but are in the nature of profit and loss—a hazard of business like that of a fire. The better way to meet the situation, therefore, is to build up from surplus a special reserve for unabsorbed burden, and to charge this reserve with the unabsorbed bur-

den of dull times, and credit it when, during busy times, the average monthly hours of use of the machine on which the machine rate is figured are exceeded. Costs will not then be disturbed by this extraneous factor.

OTHER APPLICATIONS OF COST-ACCOUNTING METHODS

A suggestion has been given of the possibility of using the basic principle of cost accounting, the analysis and segregation of expense, in analyzing sales on the basis of the profitableness of customers' accounts. By varying the lines of classification, a similar analysis may be made by salesmen. In the retail store, the department is the usual basis of analysis. It would be quite possible to collect the cost of rental, clerical and sales expense, and so forth, on the basis of product, but the goods handled are numerous, and the average amount of each item is rather too small to pay for the clerical expense. It is quite possible, however, in judging the profitableness of a line, to estimate the display, storage, receiving, selling, clerical, and delivery costs without going to the expense of a complete analysis. Applications in banking and in numerous other fields will suggest themselves.

COSTING BY SAMPLE

One of the principles for securing economy in inspection and supervision is that of reliance on a sufficient sample. A fraction of a per cent of a car of coal, properly sampled from various parts of the car and mixed, may safely be taken as representative of the whole car, for testing purposes. The purposes of cost finding may often be served by a similar plan, gathering the information as to costs only at intervals. Whether this plan is advisable depends on the reliability of the sample. If work is speeded up or slowed down while costs are being taken, the result, of course, will be unreliable. If costs are not taken over a sufficiently long period to include periodically recurrent

expenses, and to average local irregularities, the same thing will be true. If, for purposes of time-keeping, material control, and supervision, all the primary records, the time-cards, and so forth, are being made continuously anyway, it may cost but little more to secure the information completely and dependably. None the less, there are many situations where a simple plan of computing material costs by estimate of quantities, and making short tests of the labor cost, may serve all purposes adequately.

COSTS AND THE GENERAL ACCOUNTS

The method used to tie the cost records in with the general accounts, securing the benefit of verification by trial balance, is a comparatively simple application of the controlling account idea, previously described. The merchandise ledger account is broken up into a controlling account for raw material, and one for work in process and finished stock. The total of the various order cost sheets is represented by the control account of work in process. The various raw-material accounts (usually classified by kind of material) are represented by the parallel raw-material control account.

If an item of material is drawn out for use on an order, it is credited to the detail material account and to the controlling raw-material ledger. It is charged to the job cost-sheet and to the controlling work-in-process account. The various amounts of burden or indirect expense are debited to the job cost-sheet and work-in-process account, and credited to the respective expense account. And so with the other items. The control accounts enable a quick inventory to be taken, both of the raw materials on hand, and of the accumulated expenditures on, and value of, work in process. Thus is removed one of the bugbears of inventory time, the wild guesses as to labor cost and percentage of completion, on which the inventory of work in process had to be based under the old system.

THE TREATMENT OF DEFERRED EXPENSE

This subject is not usually treated as a part of cost accounting, but it illustrates another application of the method of analysis and allocation, which is so important a tool of accounting. Suppose a man signed a five-year lease under the terms of which he was to pay in advance the rent for the last six months of the five years, as a protection to the landlord against abandonment of the lease. How would the item be handled? It would be quite improper to charge it immediately to current expense. It is a capital expenditure, since it is not to be used up during the current period, and the best way to handle it would be to carry it as a deferred charge, shown on the asset or debit side of the balance-sheet, until it became due and could be applied properly to current expense. Improvements on a leased building may be handled in a similar way, being carried to a deferred charge account and written off periodically during the life of the lease. Prepaid insurance and taxes are other illustrations of the same situation.

DEPRECIATION

In an established business the probable life of a machine or other item of equipment is fairly well known. *Management's Handbook*¹ gives a table compiled from various sources, of typical rates of depreciation of various classes of equipment. The percentages of annual depreciation of a number of typical kinds of equipment are given in Table 5.

From an accounting standpoint it is not unreasonable to look at the purchase of a machine as the purchase of so many hours, years, miles, tons, or other units of service, and the problem is simply to see that as this deferred expense is used up, it shall be properly allocated to the product. The usual method is simply to write off and

¹Alford, L. P., Editor, *Management's Handbook*, Ronald Press, New York, p. 1363.

TABLE 5
PERCENTAGES OF ANNUAL DEPRECIATION OF VARIOUS
CLASSES OF EQUIPMENT

Item	Rate Per Cent per Annum
Automobiles	25
Brick buildings.....	3- 4
Coal or ash conveyers.....	10
Furniture and fixtures.....	10-20
Lathes, steel.....	10
Motors, electric	5-12½
Punch presses	4½
Printing presses.....	10
Small tools.....	10

charge to expense, each year, the 5%, 10%, or 25% of the net cost of the machine (total cost less scrap value), which represents that year's portion of the total life of the machine. More elaborate and refined methods are available, but would be justified only where the information as to expectations of life of the machine was more accurate than is usually the case.

The accounting transactions to charge off depreciation would be:

1. When the machine is bought, "cash" is credited and "machinery and equipment" is debited.
2. Periodically, "expense" is debited with the amount of the accrued depreciation (through an intermediate depreciation account) and "depreciation reserve" is credited. As "expense," the depreciation would find its way into the cost of the article.
3. Whenever a machine is scrapped or taken from service, "machinery and equipment" will be credited with the original value of the machine, "cash" will be debited with the amount realized by the sale of the machine as junk, and "depreciation reserve" will be debited with the balance. If there is any difference between the debits and credits to the reserve, due to unexpectedly high or low salvage, this would be taken up in "profit and loss."

On the balance-sheet, the "depreciation reserve" would not be shown as a surplus item, but as a deduction from "machinery and equipment," as "reserve for depreciation" was shown on the balance sheet on page 189.

It may be more logical to take up depreciation on a use basis. In a partly analogous case, the depletion of coal in a mine, the depletion reserve would be credited on a tonnage basis. Car wheels and automobile tires are best figured on a mileage basis.

CAPITAL AND REVENUE EXPENDITURES

The question as to whether a given expenditure should be classified as capital or revenue is important, because if revenue expenses are set up as producing capital assets, the balance-sheet is inflated. Sometimes this is deliberately done in order to make a showing, but it constitutes either very bad accounting or deliberate misrepresentation. Sometimes the opposite policy is followed of writing off nearly all expenditures to current expense. The effect of this is really to create a secret reserve, a value which does not show on the balance-sheet. In moderation this may be advisable as a justifiable conservatism.

As has been pointed out, the distinction is essentially one of degree rather than kind. Small tools are really capital assets, but because they have a short and an uncertain useful life, they are often treated as current expense. Custom, however, has tended to make a clear-cut distinction between the two types of expenditure, which is justifiable because of the importance of producing a balance-sheet which is conservative and supported by real values. Several rather nice questions come up in this connection. If a machine is repaired so as to prolong its usefulness, is the expenditure chargeable to equipment? The accounting practice here is, if the effect of the repair is to increase the capacity of the machine or to prolong its life beyond the previously expected life, to charge capital assets with that part of the

expenditure which produces this result. Should the cost of rearrangement of machinery be charged to capital assets? The accountant would be extremely conservative as to its advisability, for no tangible new value has been added and the cost might in many cases represent simply the rectification of previous mistakes in planning.

Should advertising be charged to capital assets under the head of good-will? The accountant follows the safe rule of providing for all losses, and writing them off as soon as incurred, but of not anticipating a profit until it is actually realized. If the Procter and Gamble Company were to sell its soap trade-mark "Ivory," it is probable that it could not be bought for a million dollars. At the time of an actual sale of a business, the value of the good-will created by advertising would unquestionably be capitalized as good-will. Until that time, the conservative accounting practice would be to treat advertising as a deferred charge, writing it off during the few months of its expected immediate effect, or during a term of four or five years, if it was aimed at more prolonged effects. A similar conservatism often impels large businesses to write down to a nominal value, extremely valuable patent rights. A patent right is a somewhat problematical value, subject not alone to ultimate termination, but liable at any time to be rendered valueless by a new invention, or by a successful accomplishment of a similar result by means which do not infringe the patent.

XIV

ACCOUNTING AND EXECUTIVE CONTROL

The basis of reliable accounts. Comparative presentation of facts. Management ratios. Earnings ratios. Non-financial ratios. Analysis of the balance sheet. A statement analyzed. A retail merchant's statement. Reports for the executive.

As a guide to the management in operating the business, records and accounts are of value in proportion to the effectiveness with which they bring out the significance of the facts presented. Accuracy is, of course, an important requirement. As has been noted in several illustrations, there are occasions when approximate and quickly made compilations of records may serve the purpose quite adequately, and in the interpretation of facts, as the distribution of expense, the valuation of assets, and in many other matters, the element of opinion is unavoidably present. If, however, laxness or irregularity is permitted in the routine of gathering the facts and making original records, there is almost a certainty of a progressive demoralization of morale, lack of respect for the records, and habits of inaccuracy which will not only destroy the value of any particular record, but seriously affect the dependability of the accounting service as a whole. A long and troublesome series of breakdowns in the production system of a large factory was traced down to an inefficient storekeeping force, whose inaccuracies in issuing materials rendered unreliable the records of raw material on hand, on which the effective planning of production depended. The latter department, disgusted with the continued unreliability of the schedules made, had fallen into the habit of making little effort to meet them, and the whole situation had fallen into the utmost confusion.

COMPARATIVE PRESENTATION OF FACTS

In the interpretation of the facts, which is the chief function of the accountant, as distinguished from the book-keeper, who records the facts, several points may be noted. Isolated facts mean nothing. They gain their significance by relation to other facts, by comparison, classification, and arrangement in series. Some examples of the importance and method of classification has been given in the previous chapters. The system of keeping ledger accounts is a device for facilitating the classification of like facts, enabling all transactions affecting one individual or class of operations, to be brought together. The distinction between capital and revenue expenditures is another important classification. The choice of the various systems of expense or burden distribution involves a choice between alternative plans of classification and allocation.

Comparison is another of the effective tools for bringing out the significance of facts, and great progress has been made in late years, in the development of organized plans for comparative analysis of facts, and of significant bases of comparison. The budget derives one of its principal values from the fact that it sets up past experience in a form which makes it comparable, item by item, with the probable future experience of a period.

Comparative presentation has the advantage of establishing a relationship between facts, of applying a measuring stick by which effectiveness may be measured or tendencies discovered. Comparison is possible between two or more periods, between two or more individuals or salesmen. Or, some measured standard of efficiency such as an absolute or 100% efficiency of material, an average efficiency such as the average stock-turn for a class of retail stores, or an estimated or predicted efficiency, may be set up. For example, one of the accepted methods of cost finding is to use what are known as predetermined costs, costs carefully worked out, much as is the

budget, on the basis of past experience as to labor and material costs, wastes, spoilages, expenses, and so forth, and supplemented by estimates as to the effect of increases in efficiency or improvements in working method, considered attainable. Prices are made on the basis of these costs, inventory values computed and operating results figured, a correction factor being applied to reconcile the actual with the predicted costs.

Comparison is facilitated by an effective plan of presentation of the facts in a report. A balance-sheet gains much of its value from the fact that its arrangement is to a very large degree standardized, so that the most useful classification of assets and liabilities has become conventional. This enables the person reading the balance-sheet unconsciously to compare its values with standards developed in his mind by his whole previous experience with balance sheets. Specific comparative form is also helpful, thus a balance-sheet gains in value if the figures for this year and for the previous year are placed in parallel columns. Another comparison on the basis of time, often used in business statistics, is the comparison of similar months, of sales for March of this year with sales the previous March, and with average sales for all or a number of previous Marches. Another comparison is made on the basis of what is known as the "moving average"—sales for March compared with average sales for the six months or year preceding. The moving average method of comparison tends to smooth out temporary irregularities, but has the disadvantage of tending to obscure, for a time, the effect of changes having a definite tendency up or downward.

Graphic presentation is often used, as it brings out very clearly the general tendency or trend of a situation and facilitates prediction by extending the curve, when a definite trend is established.

Another device which greatly increases the significance of facts is the establishing of relationships, either of direct cause and effect, or of simultaneous variation due to some

common cause. It is on such relationships that the various "business barometers" are based. Thus a large volume of unfilled orders for steel is significant as it indicates a condition of generally active demand for all commodities, and is of special significance to those industries buying steel, and to those businesses, such as retail stores in steel towns or manufacturers of machinery, whose product is used by the steel industry.

MANAGEMENT RATIOS

Another type of relationship may be established, for the purpose of comparing the experience of any particular business with what is found to be normal or good experience. Thus credit men dealing with a particular trade, trade association secretaries, or individual accountants in a trade may ascertain the usual range of stock or capital turnover experience in a trade, and establish, by analysis of various specific cases, the approximate maximum safe limits. Thus, in a certain manufacturing business, it has been found that capital turnover varies from $3\frac{1}{2}$ times per year, as an average, to 5 as a safe maximum. If a credit man notes, from any particular statement, that the manufacturer is exceeding the maximum figure, it may be that the higher turnover has been secured by exceptional efficiency, but there is a fair presumption that the man is trying to do too much business for his capital. Like the vessel carrying too much sail, something is likely to give way at any time. If accounts payable show a heavy tendency, this suspicion would be more or less confirmed.

A variety of other ratios have been worked out which show other significant relationships and put into specific form comparisons which either indicate the efficiency of operation in some particular, or the degree of conformity to a typical balanced condition, as regards the distribution in the business of assets and liabilities.

The ratio of *working capital to total capital* is of signifi-

cance. It varies very widely, from as low as 3% or 4% to as high as 80% or more. As previously mentioned, there is a tendency as a business grows for this ratio to decrease due to the building up of a large capital investment. For a particular business it should be watched, and any changes justified from all standpoints.

The ratio of *owned to borrowed capital* is also important, in showing the relative security of the lender's position, as well as the stability of the owner's position. A low ratio presumes comparatively large fixed interest charges, with the possibility of an unstable and perhaps unsafe condition if unfavorable business developments should cause a shrinkage of values.

J. H. Bliss, in *Management's Handbook*, gives an analysis of 228 companies, showing the figures given in Table 6 as the average relationships, in terms of capital employed.

TABLE 6
CAPITAL RATIOS FOR 228 COMPANIES, IN TERMS
OF CAPITAL EMPLOYED

Item	Average	Range
Total capital employed.....	100.0%	
Total current assets.....	37.8	13-68%
Total fixed property investment.....	48.1	13-78
All other assets.....	14.1	3-40
Current liabilities.....	10.2	3-22
Long-term borrowings.....	14.0	0-27
Reserves.....	4.2	0-7
Net worth.....	71.6	50-85

Other capital ratios often used are the ratio of *surplus to capital*, which shows the extent to which the company has been able to retain earnings in the business, and the ratio of *quick assets to quick liabilities*. The latter ratio is important to the banker or other short-term lender, as an indication of the probability that the loan can be paid when due. An unfavorable ratio would also serve as a danger signal to the

management of the company. The figure conventionally accepted as adequate is a ratio of two to one.

EARNINGS RATIOS

The above ratios indicate the position of the company as to disposition of its capital. Under those ratios which indicate the earning capacity of the company, the various *turnover* figures have already been discussed. Complementary to the turnover figures is the *operating ratio*. This is the ratio of operating expenses (manufacturing, selling, and administrative expense) to the gross income from sales, expressed as a percentage. The difference remaining represents the amount applicable to meeting interest on bonded debt and other fixed charges, and to profit. A high ratio indicates an unstable position, in which the balance of profit might easily be disturbed, although a high rate of turnover may enable a business to operate at a good profit on a high ratio as long as the situation does not change unfavorably. This relationship may also be expressed inversely by the ratio of net profits to sales.

Similar ratios may be used to express the relationship of *particular expenses to volume of sales*. Material cost, labor cost, burden cost, selling expenses, general administrative expenses, and profit are all frequently thus expressed, as in the advertisements of the "Swift dollar" showing proportions applied to each class of expense, and profit. Similar graphic representations are published from time to time. These ratios serve to reduce costs to a comparable basis, in any desired degree of detail.

One ratio of interest is the *turnover of accounts receivable*. It is usually expressed in terms of day's sales, on the books. Thus, if the average sale per day were \$300, accounts receivable of \$6,000 could be stated as 20 days' business. This ratio will, of course, be affected by credit customs in the trade, but its fluctuation affords a good index of credit position.

NON-FINANCIAL RATIOS

A number of non-financial ratios are also useful. In manufacturing, the ratio of number of *delivery promises filled on time* to number of total orders shipped is a good index of scheduling efficiency. The ratios of value of *materials spoiled* to total value of materials handled, and of *returns and complaints* to total orders are indications of important production and selling conditions, respectively. The ratio of *calls to sales* is an indicator, for traveling salesmen, of the net adequacy of the salesman. A low ratio may indicate either low selling efficiency or high resistance due to competition, unfavorable territory, and so forth. The *number of replies* per dollar spent for advertising is another common ratio whose use is self-evident. In labor management, *labor turnover* is generally used to judge the efficiency of the labor methods and to note the influence of unfavorable factors. It may be defined as the ratio of the number of persons hired during a period (usually a year) to the average number employed during the year. *Absenteeism*, or the ratio of average daily attendance to average total number employed, is another indicator significant of epidemics of illness or of poor discipline or morale. Any number of other relationships of significance in business may be put into this form of a ratio, to establish norms of practice against which conditions may be checked at any particular time.

ANALYSIS OF THE BALANCE SHEET

A great deal of significant information is revealed by a properly prepared balance sheet. Various points as regard order of listing items, comparative presentation, and the use of ratios representing average experience, have already been taken up. Some additional points may be noted regarding particular items.

Cash. Cash is one of the items to be watched. Few

businesses carry more than a small percentage of their total assets in cash, as cash in excess of requirements is an idle asset. They tell the story of Russel Sage, the well-known financier of a bygone day, which illustrates, among other traits, his keen appreciation of the need to keep his dollars busy. It is said that he was solicited for a donation for some one of the many causes presented to rich people. His reply was, "No! Why, man, I'm a poor man. Right now, I've got \$5,000,000 lying idle in the bank, not earning a cent!"

By a check with other items it is possible to tell something as to whether the cash is sufficient to meet current needs. High payables, low cash and receivables are an unfavorable symptom. *Accounts receivable* should be checked with sales for the period (from the income statement) to estimate the probable percentage of overdue and doubtful accounts. It is advisable to separate accounts receivable according to whether they are current or past due. Reserve for doubtful accounts should be shown deducted from the accounts, on the balance sheet. Advances to salesmen, items due for goods shipped on consignment, advances to subsidiary companies, should not be merged with customers' accounts. Large receivables, in good condition as regards collections, are generally looked upon as indicating good condition. A knowledge of local conditions in the territory sold in is a help in determining the degree of liquidity of accounts receivable. Depression or local poor crop conditions tend to slow up collections and increase losses.

Notes receivable. The value of the notes receivable account depends on the customary terms of sale. Where invoices are regularly sold on 30-day, 60-day, or 90-day notes, this account may be practically equivalent to accounts receivable. Where notes are taken in settlement of accounts already past due, the account should be viewed with caution, indicating some danger of unwise credit extension.

Inventory of merchandise should also be tested on the basis of sales or turnover. Inventory values should be figured at cost or market, whichever is lower, following the rule that profits are not anticipated, but that losses are provided for. In retail stores, when a system is used which bases accounts on selling prices, the practice is to inventory at selling price, deducting the average mark-up percentage to obtain the approximate cost figure.

Machinery, plant, and equipment should be carefully examined as to whether they bear a normal proportion to other items or are excessive. Depreciation should be deducted. The ratio of this asset to total capital should not be too large compared with normal experience.

Furniture and fixtures. Like machinery and equipment, this asset should not be in too large proportion to the total assets. Depreciation should be written off regularly. From the standpoint of the creditor, furniture and fixtures are not usually counted on to yield more than a small proportion of their value, in case of forced liquidation of a business.

Real estate. This item includes the value of the land and the buildings used in the business. It can be checked by comparison with the assessed valuation.

Patents, good-will, and trade-marks may have a very large value but require investigation. Sometimes a fictitious asset of "good-will" is set up to cover up a deficit.

Liabilities. On the liability side of the balance sheet, accounts payable should be examined to obtain some idea as to whether they are current or past due. The exact nature and maturity of bank loans, notes other than bank loans, advances by officers and long-term indebtedness should be known or ascertained. Advances by officers are subject to some comment, as they are in the nature of quick liabilities and there is danger of their being given unfair preference in case of financial difficulties. They also sometimes indicate business difficulties which could not be met

by recourse to the usual measures. They are at times, of course, quite justifiable.

In many cases a firm is subject to certain *contingent liabilities* which develop only in certain circumstances. As an indorser of notes, either accommodation indorsements or by indorsement of notes discounted, there is a possibility that the firm may be obliged to make good a default of one of the makers of the note. Pending litigation, claims for damages, disputed claims, or guaranties of another individual's accounts are some of the other situations which give rise to contingent liabilities. The amount of such liabilities should be known, and is often shown in connection with the statement.

A good surplus, if supported by sound assets, is of course a favorable sign.

A STATEMENT ANALYZED

Figure 14, on the opposite page, shows the balance sheet, in round numbers, of a small manufacturing company.

Accounts receivable 42 days is normal in view of the terms of sale, probably some slow. Raw and finished stock together approximate 51 days' sales, which is high in view of the fact that the process was a short one. It may have been caused by large material receipts just before the balance sheet was made. Machinery and equipment constitute slightly less than 20% of the total capital, a favorable figure. The total capital turnover is approximately 2.7, a good figure as compared with the average for manufacturers, which is less than 1. It represents about average, for the trade. The item of \$1,000 for supplies represented advertising material on hand. It and the item of patents would be disregarded by the banker if this analysis were being made in passing on a loan, since their value is problematical and they could not easily be liquidated. They represented legitimate expenditures, for values not yet used up.

On the liabilities side, accounts payable represent only

**ROE MANUFACTURING COMPANY—BALANCE SHEET,
JANUARY 1, 1925**

ASSETS		LIABILITIES	
Cash	\$ 500.00	Accounts Payable.....	\$ 800.00
Accounts Receivable.....	5,000.00	Notes Payable.....	2,400.00
Finished Materials	2,000.00	Advances by Officers.....	1,000.00
Raw Materials and Work in Progress.....	4,000.00	Capital Stock.....	10,000.00
Machinery and Equipment.....	3,000.00	Surplus.....	1,600.00
Supplies.....	1,000.00		
Patents.....	300.00		
	<u>\$15,800.00</u>		<u>\$15,800.00</u>

**STATEMENT OF INCOME AND EXPENDITURES
YEAR ENDING DECEMBER 31, 1924**

Total Sales	\$42,000
Less: Cost of Sales—	
Materials	\$22,000
Labor	9,000
Manufacturing Expense.....	<u>4,000</u>
	\$35,000
Less:	
Increase in Inventory.....	<u>2,000</u>
Cost of Sales.....	<u>33,000</u>
Gross Profit on Sales.....	\$ 9,000
Less:	
Administrative Expense.....	\$ 3,000
Selling Expense.....	<u>3,000</u>
Administrative and Sales Expense.....	<u>6,000</u>
Income from Operation.....	\$ 3,000
Less: Deductions from Income—	
Interest on Borrowed Money.....	\$ 200
Insurance	200
Cash Discount on Sales.....	<u>400</u>
Deductions from Income.....	<u>800</u>
Profit	\$ 2,200
Terms of sale 2% tenth proximo, net thirtieth proximo.	
Approximately steady sales from month to month.	

Figure 14: Balance sheet and income statement of a small manufacturing company.

23% of one month's sales, and they are offset by \$500 cash and \$5,000 receivables. Notes payable of \$2,400 and advances by officers of \$1,000 are not excessive, but details

should be known. Apparently, from the fact that there is a moderate surplus, they are more likely to represent an increasing business, than losses.

The ratio of working capital to total capital, 73%, is large, indicating possibly inadequate equipment. If it were known that this was not the case, this showing is favorable.

Owned capital constitutes 73% of the total capital, which is satisfactory. Quick assets, not including inventory, are 1.31 times quick liabilities. These are satisfactory figures. The operating ratio of 93% is high, indicating that the business sells on a close margin and must pay close attention to its costs. Over 50% of the total sales goes for material which is subject to substantial fluctuations in price. A failure to adjust selling prices promptly in case of an increase of this item might quickly change the surplus into a deficit. The selling cost of slightly over 7% of sales is low. The net profit on sales is 5%. The earnings on total capital are 14%, and the return on capital stock, if no additions were made to surplus, would be 22%, a good rate of earnings. The company, although small, is in good condition.

A RETAIL MERCHANT'S STATEMENT

A less favorable showing is made by the Coe Hardware Company, whose balance sheet for January 1, 1925, is shown on the opposite page.

In this case owned capital constitutes 56% of the total capital, indicating rather a heavy ratio of indebtedness. The stock of merchandise (disregarding profit and estimating the cost as approximately \$28,000) is enough to last over eight months, and additional orders for \$10,000, or four months more, have been placed. Probably much of this stock is shopworn or out of date and the merchant evidently is a poor buyer, easily oversold by aggressive salesmen and with no appreciation of the importance of turnover. If properly depreciated, the stock might not be worth half the figure shown.

COE HARDWARE COMPANY—BALANCE SHEET, JANUARY 1, 1925			
ASSETS		LIABILITIES	
Merchandise	\$19,000	Accounts Payable.....	\$ 8,100
Fixtures	2,200	Bank Loan.....	3,500
Cash	205	Net Worth.....	14,805
Real Estate.....	5,000		
	<u>\$26,405</u>		<u>\$26,405</u>
Annual Sales.....		\$35,000	
Expense		7,000	
Advance Orders Placed for		10,000	

Figure 15: Balance sheet of a small retail hardware store.

Accounts payable of \$8,100 represent between three and four months' purchases at cost, making very evident the fact that the merchant is habitually in arrears. To meet these accounts he has \$205 in cash. As a matter of fact, he is now in a position where at any moment some impatient creditor is likely to start suit, precipitating other claims, and probably compelling the man to liquidate by selling out. It is interesting to reconstruct the balance sheet from the standpoint of the prices likely to be received from a forced liquidation. It would probably be as follows:

Merchandise...\$ 7,600 (40%)	Accounts Payable	\$ 8,100
Fixtures 400 (<i>hard to</i>)	Bank Loan.....	3,500
Cash 205 (<i>dispose of</i>)	Expenses of Liquidation..	500
Real Estate ... 4,500	Remaining Equity.....	<u>605</u>
		<u>\$12,705</u>

The creditors would apparently come out whole, but practically the entire equity of the owner would be wiped out.

In this case, the item of fixtures is not unreasonably high, and the principal indication of poor management is the very serious overstocking. In his present condition, if his business were confined to a few wholesale dealers who knew him, he could probably arrange for notes to cover his indebtedness, cancel most of his advance orders, have a special clearance sale, and get into better shape. Very likely

his balance sheet a year later would show that he had drifted back into the same condition of overstock, for such errors result usually from ignorance of business principles and unwillingness to learn or to change one's habits.

REPORTS FOR THE EXECUTIVE

Some illustrations have been given of the methods of analysis by which the significant facts and tendencies of a business may be studied. Among the great number of possible reports, the executive will naturally select only the few which tell the story of vital operations and changing conditions. The emphasis will vary with the business. Daily reports of sales are nearly always significant and used. Daily reports of cash receipts and payments, and of maturing obligations and expected receipts for the next week or 10 days are useful. Monthly summaries of sales by salesman or branch house, monthly reports of shortage and allowance claims of importance, monthly balance sheet and income statement, monthly record of total sales and of unfilled orders, would be typical of the kind of reports used by the executive. Special reports would be called for from time to time, either temporarily or regularly. Thus a report on percentage of bonus earned by factory employees, or of extra commissions paid to store salesmen, would be of interest. A banker, in addition to reports on the operating expenses and condition of the bank, would follow all losses and would have brought to his attention the information folders of clients delinquent in meeting obligations. He would also follow the accounts of the more important clients, from time to time, personally.

A wholesale jobbing house would be interested in an analysis of sales by lines and brands of goods, and in following the results of advertising campaigns, and so forth.

The business man has in the system of records and accounts a very effective and flexible tool for reducing the guesswork in business. The test of effectiveness is use; if

the record goes unused, it is either because the one for whom it is prepared does not understand it or does not appreciate its value, or it is because it can be dispensed with—something that looks better on paper than it is in practice.

XV

CREDIT

The extent of credit business. The basis of credit. Sources of credit information. The mercantile agencies. Cooperative credit information. Direct information. Terms and forms of payment—retail trade. Wholesale terms of sale. Trade and cash discounts. Credit instruments and evidences. The book account. Orders to pay—checks. Bills of exchange. Trade acceptances. Letters of credit. Promissory notes.

THE extent to which credit enters into the structure of business hardly needs comment. As was mentioned in Chapter I, the whole economic system is predicated on the inviolability of business obligations. By far the greater portion of modern business transactions involve the making of promises to be carried out in the future. Such transactions would be impossible without confidence in the security of the promise. What happens when the credit system breaks down is illustrated by the experiences of Russia, where currency was more or less deliberately debased to destroy the old economic order. All production beyond immediate needs, all saving and accumulation of capital, all trade, beyond simple barter of goods for goods, dies of quick starvation; confidence, the support of all transactions having a remote and an indirect issue, has been destroyed.

Only a small fraction of business is today done with actual gold money. The wide-spread use of government notes as money, of checks, of the open account in settlement of transactions, is tending more and more to take gold out of circulation, to be stored in the Federal Reserve banks as a reserve to be used in emergency only.

THE BASIS OF CREDIT

Credit has been defined as the power to obtain goods or values in exchange for a promise to pay at a future date. It

is based on confidence in the intention and capacity to repay. It may be exercised, or may remain simply a potential capacity. The credit structure is based first on the general experience that men are honest and will fulfil an undertaking. There must secondly be system and organization for securing information as to the reliability of each applicant for credit, since some with good intentions misjudge their own capacity to repay and a few do not intend to pay. Third, there must be standardized and convenient forms of promises to pay, generally understood and backed in their provisions by custom and by law. Fourth, there must be security, a recourse legally to be taken for compulsory satisfaction in case of default of agreement.

The basis of credit has been well summed up in the three C's, character, capacity, and capital. A man started a little store in a neighborhood shopping center and labeled it the "Merchandise Manufacturing Company." He was careful that his name never appeared unnecessarily on stationery or otherwise. His account at the bank was under a fictitious name. No one in the trade had anything unfavorable to say about him, for no one knew anything about him. More conservative firms did not sell him goods, but he placed liberal orders with every one who would. The goods came in, and a few weeks later creditors, looking up some past-due invoice on goods shipped to the company, discovered that the concern had "moved, left no address." Two or three months later another store will open in another town, perhaps this time the "Enterprise Bargain Store." The loss of any one creditor is never quite large enough to warrant the expense of legal and detective service, and it is usually only by collective action of credit men, or the action of a credit agency, that the thief is hunted out, branded in the mercantile reports and, if possible, put in jail. Such cases illustrate the character hazard in credit granting.

There are all variations of the character rating. There is the merchant who starts in business on a shoe-string with the comfortable philosophy—"If I make it go, all right,

if I don't—well—it's the creditor who loses, isn't it?" There is the one who starts out with honest enough hopes, who gets into deep water and is forced to more and more doubtful expedients in the desperate hope that some day it will come out all right and he can pay it back. Losses due to premeditated moral obliquity are much less common than the other types: in which the business is started with good intentions but fails to realize expectations.

Capacity is important. Lack of capacity is at the bottom of the great majority of business failures. One of the early credit experiences of the writer was with a mattress maker who had started a little furniture and bedding store. He knew his trade, but he did not know trade. He started out well, with active sales, paid his bills promptly, and looked like a good customer. But he did not keep an attractive store, or know how to wait on customers, and they did not come back. His wife was more business-like than he, and used to tend store in a desperate effort to hold the slipping trade. But their combined efforts and capital were insufficient, and month by month the stock grew smaller and more dejected looking, the store grimmer and less attractive, till business ceased entirely and the man gave it up and went back to his trade, his father-in-law's capital dissipated, his own confidence in himself broken, his creditors losers for varying amounts, and nobody the gainer.

Adequate capital is really a corollary of competence, for a competent man will not start business without seeing that the money is in hand. But a poor year in business or other unforeseeable losses will sometimes deplete an otherwise adequate capital to the point where it is insufficient. Then the man finds himself forced to throw more of the load on creditors by letting his payables increase and bills go to past due, and unless he quickly retrenches or recoups the loss, he runs a danger of cutting off his source of supply or of being confronted some day with a demand for payment which he cannot meet except by liquidating his business.

SOURCES OF CREDIT INFORMATION

There are quite a number of channels available to the business man, by which information may be obtained regarding the status of customers or prospective customers. Usually the first step in deciding as to whether or not to extend credit is to turn to the information contained in the various mercantile credit agency reports. Information is also made available through a number of cooperative agencies such as the National Association of Credit Men, and the various retail credit bureaus maintained by local chambers of commerce and merchants' associations. Information may also be secured by the firm's own salesmen, from local banks and attorneys, and by interview or communication with the man himself.

THE MERCANTILE AGENCIES

The first mercantile agency in this country was established in 1841, shortly after the great panic of 1837, by the predecessors of the present company, R. G. Dun and Company. It was followed in a few years by Bradstreet's Improved Commercial Agency, and these two companies have since that time held leading places in the field of general credit information. On the basis of a flat annual subscription, the subscriber is supplied with a periodically revised rating book giving an estimate of the credit status of all known firms and individuals doing business in the United States, together with an extensive service covering Canada and certain other countries.

In addition to these general agencies, there are many specialized trade agencies which confine their activities to certain lines.

Thus the Lyon Furniture Mercantile Agency gives information as to the status of those engaged in the manufacture and sale of furniture and kindred products. Similar services are rendered to many other trades. A well-man-

aged specialized agency has an advantage over the general agencies, of course, in the fact that the heads of the agency give their time exclusively and intensively to observing conditions in the one line, and frequently secure the cooperation of the appropriate trade association in getting credit information.

The information in the rating books is presented under three headings. Concerns in each town, and by states, are listed alphabetically, the line of business is indicated by a code abbreviation, the capital rating is given, usually by a code letter, and the grade of credit rating, usually by a code number. Thus a firm rated B-1 would be estimated to have a net capital of not less than \$200,000, and to be prompt pay and considered a good moral risk. Since this information is only a very condensed opinion, the agency is prepared to give further information, when called for by the subscriber, in a very complete report. This report, for example, might give a history of the company and of the antecedent connections and success of its members, a note of any suits, mortgages, or other encumbrances, of previous bankruptcies or fires, of the firm's present condition, and of favorable or unfavorable factors affecting its prospects, a balance sheet or summary of it or partial information, such as total amount owing, and so forth. The credit agencies in some cases also issue periodical bulletins which, in code form, revise the ratings in the rating book or convey information of special importance. Thus a code number "12" may mean "requires special report," indicating information of importance but too lengthy for the summary. Code "13" might indicate that the firm was being sued, "14" a fire with insurance, "15" a fire without insurance, "16" a revised rating, "17" a new firm just started in business, and so on.

The mercantile agencies have several means of securing their information. The general agencies employ district and local representatives who periodically cover all business districts, recording a general impression of the condi-

tion of the business and of the character of the officers of the company and leaving a blank to be filled in and returned. This blank is similar to the credit information blank shown in Figure 16, on page 227. In addition to this source of information, the agencies receive a report of all suits started, petitions for bankruptcy, mortgages recorded, and similar information. A folder is kept for each firm in the jurisdiction of the district office, in which all such information is collected.

Another source of information used by some agencies is a tracer sheet sent out weekly to subscribers, who are asked to indicate their experience with firms shown in the list, under such headings as: "discounts," "prompt," "satisfactory," "occasionally slow," "slow," "extremely slow," "makes unjust claims," or "refuse to sell." The list of names is changed each week. This system, which is also used by the Credit Clearing House of the National Credit Men's Association, gives a very clear indication of the standing and tendency of any firm. Suppose a report in January indicates a response from 10 dealers, 50% of whom report a firm satisfactory, 30% slow, 20% very slow. A report in March shows 18 dealers reporting, with 20% as satisfactory, 40% slow, 40% very slow. There would be immediate occasion for investigation and caution, not only on account of the increased slowness, but of the increased number of dealers. The latter is usually a danger signal, indicating either that the merchant owes so much to his regular dealers that he cannot get credit and is buying from new firms, or that he is buying heavily in anticipation of a more or less fraudulent disposal of the goods. At the same time the report will indicate the firm which, while perennially slow, is known to be depended upon to settle all obligations. Such firms, while less desirable credit risks than those which regularly discount, are, if kept after and kept within certain maximum limits of indebtedness, often perfectly acceptable risks. Many firms draw a credit deadline, refusing to sell any customers rated below, say, "3"

("occasionally slow")—or some similar level which experience shows to be satisfactory. It may be necessary to sell a lower grade of risks, limiting the amount sold to any one, if enough business cannot be secured at a given credit limit.

COOPERATIVE CREDIT INFORMATION

It is a well-established custom that business men will give other creditors their credit experience with a specific firm on request, and a prospective customer is frequently asked to give references, who are then written to, for their experience as to the paying habits of the prospect. While this gives useful information, the value of the plan is limited by the fact that a firm is not likely to refer the inquirer to a company which it knows will give an unfavorable report.

In many trade associations one of the activities of the association is a credit exchange. Each merchant or manufacturer reports the names of his customers, and whenever a member of the exchange wishes information about a prospective customer, he is either given the code numbers of other members who have experience with the customer, or is given a digest of the experience reported periodically by other members. A summary of the experience of all members is expressed as a percentage. Thus, if 15 out of 20 firms reported a firm slow, the firm would be listed as "75% slow." The National Credit Men's Association for several years has operated a credit clearing-house for its members, run on the same principle, with the addition of requesting statements or balance-sheets direct from the merchants being rated. A similar credit information exchange for retail customers of a town is one of the commonest activities of the local chamber of commerce or mercantile association. A card index gives the names of all residents who buy from the local merchants, and on this card is noted the experience of each firm dealt with. A rating can be had by a member, by writing or telephoning the secretary in charge.

DIRECT INFORMATION

Much information can be obtained direct from the prospective customer, at the time of his application for credit. A new customer, starting a business or who expects to do a

To _____	
The undersigned, for the purpose of obtaining credit from your Company, furnishes the following statement, which fully and truly sets forth the financial condition of the undersigned, as per inventory of the _____ day of _____, 192____.	
Name _____	Incorporated under _____ State Laws _____
Address _____	Authorized Capital, \$ _____
Nature of Business _____	Amount Paid in Cash, \$ _____
Amount of Sales for Year \$ _____	In Other Property, \$ _____
Assets	Liabilities
Cash on Hand and in Bank, \$ _____	Notes Payable to Own Banks, \$ _____
Customers' Notes Good, \$ _____	Notes Payable Sold through Brokers, \$ _____
Trade Acceptances Receivable, \$ _____	Notes Payable to Others for Borrowed Money, \$ _____
Customers' Accounts, Good, \$ _____	Notes Payable for Merchandise, \$ _____
Merchandise, (Finished Product), \$ _____	Trade Acceptances Payable, \$ _____
Material in Process and Raw Material, \$ _____	Accounts Payable, \$ _____
U. S. Government Securities, \$ _____	Declared Dividend (Unpaid) \$ _____
	Encumbrance on Merchandise or Other Assets (aside from Real Estate or Chattel Mortgage) \$ _____
	Chattel Mortgage, \$ _____
	Pay Roll Accrued and Unpaid, \$ _____
	Accrued Federal or Other Taxes, including Excess Profits Tax, \$ _____
TOTAL QUICK ASSETS, \$ _____	TOTAL CURRENT LIABILITIES, \$ _____
Plant { Machinery, Fixtures, etc. \$ _____	Mortgage on Real Estate, \$ _____
Buildings and Grounds, \$ _____	Bonded Indebtedness, \$ _____
Outside Real Estate, \$ _____	OTHER LIABILITIES IN DETAIL:
Notes of Officers, Employees or Stockholders \$ _____	
Accounts of Officers, Employees or Stockholders \$ _____	
Doubtful Accounts and Notes, \$ _____	
OTHER ASSETS IN DETAIL:	
TOTAL, \$ _____	TOTAL, \$ _____
Is above Statement based upon audit of outside Accountant? _____ Has Real Estate been independently appraised? _____	
Have any changes of importance occurred in the company's condition since inventory above mentioned? _____ Is Merchandise Inventory valued at Cost or Present Market Price? _____	
Are Notes or Accounts You Owe Secured in any way, if so, how? _____	
Notes Receivable Discounted at Bank not included in above Statement, \$ _____ Is Mortgage or Bond issue shown above a lien on either, Receivables or Merchandise? _____ Amt. of Notes Payable Past Due, \$ _____ Amt. of Accounts Payable Past Due, \$ _____	
Are any of the Accounts or Notes Receivable shown above Pledged or Assigned, if so, give particulars? _____	
Contingent Liability as Endorser or otherwise (aside from Discounted Notes Receivable), \$ _____	
How much Depreciation has been allowed on Machinery and Fixtures during Fiscal Year, closing as above? \$ _____	
Amount of Fire Insurance carried on Merchandise? \$ _____ On Buildings, etc., \$ _____	
Amount Credit Insurance carried, \$ _____ Amount Casualty Insurance carried, \$ _____	
Amount of Dividends paid during year ending as above, \$ _____	
Bank with _____	
Trade References: _____	
Remarks: _____	
Company Signature: _____	
Date submitted: _____	By: _____

Figure 16: Typical credit information blank.

considerable amount of business for which he wishes credit, will often visit the credit manager of the supply house, and at this time his plans can be gone over, a simple balance-sheet covering the essential items made up, the adequacy of his capital, past history, possibility of success of his plans, and other pertinent facts ascertained.

A standardized credit information blank is also sent out annually or semiannually to customers by many firms, asking for a balance sheet, amount of fire insurance, amount of sales and profits, and similar information. A typical blank is shown in Figure 16, on page 227.

A good deal of information can also be obtained from salesmen, although this information is subject to the bias of the natural optimism of the salesman and his desire to sell. Salesmen do not like to ask credit questions and are inclined to skimp chilling inquiries as to the prospect's financial position. Some firms, however, require the salesman to make a detailed report on each new customer, and the salesman may be educated as to the effect of credit losses on the business, and instructed in the art of securing credit information without giving offense. The salesmen should be asked to report on the following items:

Full name of firm and address.

Name of partners or officers, especially of principal members.

Any information as to personal history and business antecedents of the partners, bad habits, other business connections, property owned outside of the firm.

Amount and condition of stock—is it well selected, fresh, well displayed?

Insurance and how much?

Is business done on cash or credit? Amount of outstanding accounts receivable? Are collections kept up?

Reputation of firm in locality and among other merchants.

Desirability of store location and appearance of store.

Real estate and other property owned. Mortgages.

If a new firm, how did they secure their capital and how much?

Other houses with which they are doing business.

Other information available.

The salesman is also in a position to notice and report any changes in the firm's status, an expansion, or the contrary symptoms of poor business condition. Many evidences of coming trouble can be seen only by a man on the ground. Loss of interest in business and frequent absences, shiftlessness in keeping up the premises, extravagance in personal or business affairs, rumors of financial difficulty, may all most quickly be detected by a salesman who, with the interests of his house at heart, keeps his eyes and ears open and his mouth shut as he calls on his trade. The salesman may also at times assist the collection department, by tactfully raising the question of settlement of old bills, when taking orders for new merchandise.

Information can also be had from local attorneys. Lists are published which give the names of attorneys in each town who are recommended to handle collection business, and such lists are made part of the rating books of some mercantile credit agencies. For a fee of \$1 or a similar small fee, often scheduled in the list, these men will return a report as to the local standing of any business man in the community. Such information varies greatly in quality. Some attorneys, specializing in collection business, give dependable reports; others, through friendship with the debtor or a mistaken feeling of local patriotism, may give inaccurate or misleading information.

TERMS AND FORMS OF PAYMENT—RETAIL TRADE

After the reliability of the debtor has been ascertained as accurately as possible, the next step is the making of the contract and arranging terms of payment. While both cash sale and sale on credit are common in retail merchandising, by far the greater volume of wholesale business is done on a credit basis. The customary basis of settlement in retail trade is to render statement of the account monthly on the first of the month, settlement being expected by the tenth of the month. Some firms dealing with customers of little

financial responsibility require a weekly settlement. Many goods are sold on an instalment-payment plan, usually, however, under a contract of sale by which title to the article remains with the seller until all the conditions of the contract as to payment, and so forth, have been complied with. Sometimes a chattel mortgage is taken on the property as security. Many states require conditional sales to be recorded, and all states require chattel mortgages to be recorded. If such sales or mortgages are not recorded when so required by the law of the state, the creditor may lose his security.

A new and interesting plan of payment is being offered by a "domestic utilities" financing company, which makes arrangement with merchants, contractors, and others, to discount a series of notes given by the customer, which are secured by the merchandise or property purchased, or by the general credit of the customer. Thus, house painting and repairing, furniture, and other items, may be purchased on this plan. The notes are indorsed by the merchant and are paid by the customer direct to the financing company. Automobiles have for years been financed in similar fashion, notes being given to mature monthly, to cover the cost of the car plus insurance and interest, the car itself constituting security for payment. These notes may be made direct to the financing company or to the dealer and be indorsed over by him. Experience has shown this class of paper to be a very safe investment, as few buyers are willing to give up a car, and most will make considerable sacrifices to avoid doing so.

WHOLESALE TERMS OF SALE

The terms of sale vary greatly from one trade to another, and to a certain extent between merchants or manufacturers in the same trade and according to class of customers. Goods are usually sold on the understanding that payment is due on a specified date or after a specified interval from the date of sale. Thus, "net 30 days" means that the bill

is to be paid within 30 days from date of invoice. In some lines in which large stocks are bought in advance of the selling season, the practice of *dating* is resorted to. In the men's clothing business, on account of the seasonal nature of sales, the manufacturer can keep his force busy without cramping his storage facilities, and has a better basis for borrowing from his bank, if he can ship orders in advance and date the bill for the opening of the selling season. Thus an invoice might be sent for goods shipped January 15, marked "January 15 — dated March 1 — 2% 10 days, net 60 days." In effect this extends the discount period to March 9, the due date to April 29. The usual plan is to set the due date on merchandise at a period far enough ahead for the merchant to realize on the goods in cash in the average case. Terms are therefore usually longer in lines with an average slow turnover, such as jewelry and furs.

TRADE AND CASH DISCOUNTS

It is a common practice for a firm to get out a large catalog only once in two or three years, and to price the items in this catalog at the retail price or at some price much higher than the usual market price. With this catalog a trade discount sheet is sent which may give discounts such as 50%, or 50% and 10% (equivalent to 55%) on the various classes of items. This list is revised from time to time to meet the market price.

The cash discount is in addition to the trade discount, and is in the nature of an inducement to pay in advance of the due date. "2% 10 days, net 30 days" is perhaps the commonest single discount, meaning that if cash is paid within 10 days of the date of invoice, a 2% discount may be deducted. The discount varies between one-half of 1% and as high as 5% or 6%. A discount of 2%, which may be earned by paying 20 days in advance of the due date, is equivalent to 36% interest per year—a rate which the merchant can hardly afford not to take advantage of.

Where the customer buys frequently, it is often more convenient to arrange for a periodical settlement, cash discount being allowed if thus settled. Thus many firms make a practice of rendering monthly statements on the first of the month, with a cash discount if paid by the tenth of the month. Where the amounts purchased are large, settlement might be arranged for weekly or biweekly.

CREDIT INSTRUMENTS AND EVIDENCES

The consideration given by the buyer may be cash or a promise to pay. Where credit is extended, the immediate consideration may range from the simple, implied acknowledgment of debt of the open book account, up to the mortgage bond, with its elaborate devices for the security of the creditor. It will be of interest briefly to consider the characteristics of the more common credit instruments or evidences of debt.

We may first dismiss very briefly the promises to pay of the government and of banks. The various forms of "paper money," the United States Treasury notes, the Federal Reserve notes and Federal Reserve bank notes, the National bank notes, are all so well secured, so generally accepted that the business man, in his ordinary transactions, does not distinguish between them. They are all money to him. The same may be said, except as to the details of cashing, for post-office and express money-orders, and for banker's checks and drafts.

THE BOOK ACCOUNT

The book account is both the commonest and the least secure of the evidences of indebtedness given by the debtor. You open an account with a merchant, walk into his store as often as you wish, and within certain credit limits usually established as the maximum charge which will be permitted, you are free to select what you wish, order it charged, and

walk out with it. No signature is given, no reliable evidence of debt save the testimony of the sales book and of the clerk who made the sale, only an implied and customary promise as to time of payment, often only a casual and incomplete identification of the customer. The only evidence the merchant could bring into court is his ledger account, every item of which is open to dispute. It is a striking illustration of the inherent honesty of the average man, as well as of the effectiveness of the social restraints on dishonesty, that losses are as few as they are. Occasionally retail stores require signature to the sales slip, which gives better evidence of debt but is not quite as convenient to the customer. Wholesale deliveries of goods are almost invariably receipted for in some way. In the case of direct delivery a driver's receipt is signed. In case of shipment by rail a bill of lading, signed by the carrier, is evidence of receipt by the carrier and a receipt is taken by the carrier from the customer on delivery.

Although the book account is the least secure, it is the most convenient system of credit for the customer. Because experience shows that it is seldom seriously abused, it continues to be the predominant method of doing business both in retail and in wholesale trade.

ORDERS TO PAY—CHECKS

The check is a special type of bill of exchange. It is drawn on a bank, and is payable on demand.

It may be made payable to the "order" of the drawee, or to "bearer" or "cash." The check is not payable until the date for which it is made, and post-dated checks are given under certain circumstances, with the understanding that they will not be presented until the specified date. On presentation for payment or tender to another party, any check, except one payable to "bearer," must be indorsed, either "pay to the order of——" with payee's signature, or the signature only. In the latter case it becomes in effect a bearer

check. Each successive holder is also expected to add his indorsement. Indorsement renders the indorser liable for payment if the check is not honored. A check may be *certified*, on request of maker or holder, on presentation, for that purpose, to the bank on which drawn. The bank ascertains the fact that the drawer has sufficient funds to meet the check and debits the account drawn on, for the amount of the check. The money is then no longer subject to application on other checks, but is held for payment of the certified check. The check is stamped "accepted," with the date, name of the bank, and names or initials of the teller and usually of an official of the bank. Some careless or dishonest business men draw checks in excess of their funds. The first check to be presented may then be the only one paid. If there is a suspicion that this is the case, it is a good plan to send the check to the bank immediately for certification, later clearing it through one's own bank for deposit in the usual way.

A *voucher check* is one which, in addition to the usual and essential statements and signature, bears on its face, or at one end across the reverse, or on an attached folded slip, an itemized statement of the accounts being settled by the check, usually with the statement "Payment in full of the above account is hereby acknowledged. If incorrect, please return."

The check is almost an ideal instrument for the transfer of money. It is negotiable yet requires identification of the payee and his signature, thus insuring a reasonable degree of safety against payment to chance finders or other unauthorized persons. It constitutes a signed receipt for the amount of the transaction, and with the voucher feature is a practically incontrovertible evidence of payment. The stubs of the check-book can, with some of the modern variations of the check, be made to serve as, in effect, a journal for the record and partial distribution of payments. The check is convenient. It is subject to one danger, the danger of fraudulent alteration or forging of signatures or amounts, but can

be quite effectively protected against this by the modern check-writing machines.

BILLS OF EXCHANGE

When the order to pay is drawn by the creditor against the debtor, a bill of exchange or commercial draft is produced. The order may be drawn in favor of a third party or order, or to the order of the drawer. In the latter case, it is indorsed as would be a check, to the order of the bank or individual to whom payment is made.

The draft used to be a common method of settling commercial transactions, the creditor drawing on the debtor when the debt was due, in favor of himself, a bank or of a third party to whom the creditor owed money. It was considered a serious reflection on credit to refuse payment of the draft when presented. The draft is still frequently used for collection, but it is easy to offer excuses for non-payment, such as "will settle direct," or to claim the amount is in dispute. For this reason it is not in as common use as formerly. A draft specifies date of payment, as "at sight," or 10 days or 60 days from sight or presentation. The draft may be offered by the drawer for collection, the bank acting as agent and remitting proceeds, less a small collection charge, or it may be discounted by the drawer. It does not constitute an enforceable obligation on the drawee until accepted by him, which is done by writing "accepted," with signature and date, across the face. It then has the status of a promissory note by the drawee, with drawer as indorser.

The bill of exchange is very widely used in foreign trade. A in the United States sells something to B in England. B in turn has money coming from C in the United States. The debt is settled without the expense and delay of shipping gold, by sending or cabling an order by B, on C, to pay A and charge to B's account. If D, in England, owes A in the United States, he may settle by buying from B, an order on C, which C makes payable to A. The details of

the sale of foreign bills of exchange, with the related questions of exchange, are too specialized a branch of business to warrant further discussion here.

TRADE ACCEPTANCES

The trade acceptance is a special type of bill of exchange which is growing in popularity. It differs only from the bill of exchange in the fact that acceptance is agreed upon at time of sale. At the time of shipment, a draft for 30 or 60 days or an agreed period, is sent with the invoice and bill of lading to the purchaser. Usually the draft bears no interest until maturity, which usually corresponds with the usual trade terms. Upon receipt of the draft it is accepted by the purchaser and returned by him to the drawer. The acceptance may bear on its face or back the statement "In settlement of the following invoices," followed by date, amount, and invoice number or items. Accepted, it becomes first-class, two-name commercial paper, favorably regarded by the banks since it is acceptable by the Federal Reserve banks for rediscount if its maturity does not exceed 90 days. An acceptance is worth no more, of course, than the credit of drawer and acceptor, and it is subject to some abuse, at times being made to appear as covering *bona-fide* current transactions when it is actually given in settlement of old and perhaps shaky accounts. But it represents an

TRADE ACCEPTANCE	No. <u>1</u>	<u>Chicago, Ill.</u>	<u>August 15</u> 192 <u>5</u>
	To <u>James Furniture Co.</u>	<u>Bay City, Mich.</u>	
	On <u>Sept. 15, 1925</u>	<u>Pay to the order of</u> <u>Ourselves</u>	
	<u>One Hundred and no/100</u> <u>Dollars (\$ 100 no/100)</u>		
	The obligation of the acceptor hereof extends out of the possession of goods from the drawer. The drawer may accept this bill payable at any bank, banker or trust company as the United States values its may designate.		
	Accepted at <u>Bay City</u> on <u>August 16</u> 192 <u>5</u>	Payable at <u>Bay City Dime Bank</u>	
<u>James Furniture Co.</u> (SIGNATURE OF DRAWER)		<u>Dutton & Company</u> (FURNITURE CO. OF BAY CITY) <u>By E. Vanderploeg</u> (SIGNATURE OF ACCEPTOR)	

Figure 17: Specimen trade acceptance.

advance over the book account, especially because it assists the vendor in financing his sales to better advantage than can be done on the basis of the book account.

LETTERS OF CREDIT

The letter of credit is an order written by a bank or commercial house, authorizing a correspondent bank, or house, or a debtor, to pay sums as requested by the holder, up to a specified total and to charge to the drawer's account. Travelers' letters of credit are the orders of a bank or express company on its foreign branches or correspondents, and consist of a series of sub-drafts which can be used like currency except that they require signature and identification of the drawee.

PROMISSORY NOTES

The promissory note is one of the most important of the evidences of debt tendered in settlement of transactions. A negotiable promissory note is an unconditional promise in writing made by one person to another, signed by the maker, engaging to pay on demand, or at a fixed or determinable time, a sum certain in money to the payee, to his order or to bearer. The payee may indorse the note to another individual's order, in doing which he becomes liable for the

	\$ 1,000.00/100	Chicago	August 15 1925
	Sixty days	after date	we promise to pay to
	the order of	Dutton & Company	
	One Thousand and no/100		Dollars
	Payable at	Chicago, Ill.	
Value received with interest at the rate of six per cent per annum			
No. 1	Due Oct. 14, 1925	Jones Furniture Co.	by H. Jones, Pres
Standard Business Company (Incorporated), Chicago, Ill.			

Figure 18: Specimen promissory note.

full amount of the note if not paid by the maker when due. Notice of dishonor must, however, be served on the indorser in person or by mail not later than the day following such dishonor. Otherwise he is released from liability.

Notes may be either secured or unsecured. A note may be secured by the deposit of objects of value, such as stocks or bonds, with the holder, the note containing the provision that if its terms are not met, the securities may be sold by the holder and applied toward the satisfaction of the note, the maker being liable for any unsatisfied balance, and entitled to the return of any value realized from the sale, in excess of his liability. A note may in similar fashion be secured by a chattel or real estate mortgage, which is an agreement by the owner of the property mortgaged, recorded with the appropriate register of deeds, giving authority to the holder of the mortgage to cause the property to be disposed of at public sale and the proceeds applied as before to the satisfaction of the indebtedness.

XVI

CREDITS AND COLLECTIONS

The credit manager. Organization of the credit department. Collections. Finding out the reason for non-payment. The demand for payment. Some applied psychology—reselling. Inertia. Discouragement. Education of the customer. Taking action against the debtor. Other legal recourses. Extension and composition. Bankruptcy. Financial difficulties of large properties.

FUNCTIONALLY, the work of passing on the acceptability of credit risks and of collecting money from customers is part of the general function of sales and distribution. The credit department is usually independent of the sales department, however, and attached to the financial divisions of the business. One very good reason for this arrangement is that the credit department should not be subject to the pressure or the contagion of the optimism which is an element in most good selling, nor influenced to incautious credit granting by the desire to increase sales. On the other hand, the credit man must measure the results of his work in terms of volume of safe sales approved, as well as safety.

THE CREDIT MANAGER

The credit manager should be a man with a working knowledge of law, of accounting, and of merchandise customs and methods. His work, at its best, is far above the routine of mechanical consultation of rating books and balances, and mechanical and ill-judged attempts to force payment. At his best the credit man is an acute judge of human nature, tactful, firm, experienced in noting the symptoms that point to discouragement and decline of interest, and qualified by attitude, personality, and experience to serve as a constructive and educational force, helping cus-

tomers in business difficulties, educating them to better business methods.

ORGANIZATION OF THE CREDIT DEPARTMENT

The credit department will consist of the credit manager and as many assistants as may be necessary to do the work of deciding on the acceptance of orders from new customers, arranging terms and details of the relationship with the customer, and watching the progress of the account as new orders are placed and payments are made. Filing clerks and clerical assistants will also be needed. A file is usually kept for each customer, in which correspondence, statements, and so forth, are kept. Attached to this file may be a summary of the account, showing name, address, terms of sale, general information as to officers, and other facts, together with a summary of the ledger account showing the history of the account as to purchases and payments. This summary card will also indicate the credit limit of the customer, a high limit of indebtedness beyond which, when it is reached, further sales will be refused until the account is paid up or reduced. In a large business the essential part of this information will be compressed into a card index, filed geographically and then alphabetically. Small markers or flags will be attached to those accounts which are delinquent. As an order is received from a customer, it will come after preliminary checking, to this department, where a credit man will refer to this file to make sure that the customer is in good standing and stamp the order with his "o.k."

The work of collecting delinquent accounts is often in charge of a branch of the credit department, but may be administered by a separate collection department. In the small business both credit and collections are sometimes functions of the accounting department, and in any business a close mechanical coordination is necessary between the departments to assure effective control of the customer's account.

The methods by which information regarding new customers is obtained by the department were described in the previous chapter. Once a firm becomes a customer, the credit department begins to be able to corroborate this preliminary information and supplement it by the firm's experience, and commences a process of classification of customers which prepares it to answer promptly any question regarding the credit standing of the customer.

COLLECTIONS

Proper credit granting is the foundation of good collections. In case application for credit is made by some one who is not considered an acceptable credit risk, it is the duty of the credit department courteously to inform the applicant of the decision. Since this is a rather delicate matter, a letter is often written suggesting that sales be put on a cash basis until satisfactory arrangements can be made for credit, suggesting that the applicant secure some one to guarantee the account, or in other ways safeguarding the company's interests without giving offense. Tact is a prime requisite of the credit man, for if there is any point on which a customer is sensitive, it is concerning any reflection on his credit.

Once the order is shipped the next thing is insuring payment according to terms. The actual losses due to bad debts should seldom be over a fraction of a per cent of sales, with proper credit action, except in some retail instalment lines, where special allowance is made in a higher price, for expected losses. But the loss due to ineffective collections is not only the direct loss of money, it is felt in lowered turnover and earnings and lessened respect and good-will on the part of customers. It usually costs a good deal of money to build up a customer's business into a profitable account, and the customer becomes an important and sometimes almost a necessary part of the company's plan of distribution. To resort to legal collection measures means not only

the direct loss and expense, but the loss of the customer and the sacrifice of all the investment in building up the account.

The first step in collection is the mailing of the invoice, usually simultaneously with the shipment of the goods. At the end of each month it is customary to send out a monthly statement, on which due or past-due items may be checked. The statement brings in a large majority of the accounts. For those who fail to respond, the next step will be a letter courteously calling attention to the past-due account. A common and suitable phraseology for the first collection letter would be:

We notice that the attached account is now somewhat past due. No doubt it has been overlooked, and possibly your remittance is already in the mails. If it has not been sent, may we have your remittance at an early date?

FINDING OUT THE REASON FOR NON-PAYMENT

If this reminder fails to bring a response, the next step should be, with an account not already classified as to paying habits, to send a letter designed to bring to the surface if possible the reasons for non-payment. A list is given below, of some of the reasons commonly met with:

Dissatisfaction:

1. Goods not as represented by salesman; not of satisfactory quality; as represented but disappointing; arrived in damaged or poor condition; goods do not sell well. Customer sold too large a bill.
2. Error in filling order—too many or wrong kind of goods; error in amount; terms or delivery not as agreed.
3. Order received by customer too late to sell or to satisfy the customer's customer.
4. Pique at the house or salesman over some real or slight fancied grievance, or at too urgent collection methods.

Bad credit practice:

5. Attempting to operate on inadequate working capital with consequent slow payment.

6. Dilatoriness and negligence.
7. Deliberate delay in payment with expectation of claiming adjustments or forcing concessions. Taking of unearned discount.

Miscalculation or misfortune:

8. Impairment of capital by losses, slow business, and so on.
9. Impairment of capital due to extravagance or poor business methods.
10. Temporarily frozen condition of inventory, accounts receivable, and so forth.

It is very clear that until it is known why payment is not being made, intelligent collection methods are impossible. The almost universal characteristic of slow-pay customers is a total lack of response. They receive a bill or letter, and put off answering it in the hope that in a day or two they will have the money. When things get too bad they will not look at unpaid bills for weeks at a time, and will drop statements and letters into the waste-basket without reading them. The unusual debtor who writes and explains circumstances can be dealt with.

However, in spite of this tendency of the debtor to say nothing if he is slightly dissatisfied or is in trouble, a second letter should follow the first in 10 days or so, which will give the debtor an opportunity to explain the situation. It might be phrased as follows:

We notice that we have not yet received a remittance in response to our letter of ———. Sometimes an error is made in filling an order, or some other difficulty is experienced which delays payment. If this should be the case, will you kindly write and tell us what the situation is, so that we may endeavor to adjust the matter to our mutual satisfaction and keep your account clear on our books?

At this stage, if possible to arrange it, a personal visit by the salesman or representative of the credit department is by far the most effective method. A personal interview will bring out grievances or difficulties which no letter would bring to the surface, and often the account will be paid on

the spot. Sometimes, indeed, with small retail or wholesale customers who may not have bank accounts and do little business by mail, the customer expects to be called on by a collector and one must be used if this class of business is to be handled.

THE DEMAND FOR PAYMENT

If the second "why" letter fails to bring results and a personal visit or report from a mercantile agency does not explain the reason for the delay, a third letter will follow, possibly at an interval of a week or 10 days, calling attention again to the unpaid item, appealing to the customer's sense of fairness and interest in keeping a clear record, and in courteous but definite terms asking for a remittance at an early date. From this point, each case must be dealt with individually for best results. If it is known that the debtor is negligent, repeated dunning with letters that contain no hint of threat or ultimatum, may bring results. If the account is considered shaky, the next step would probably be a prompt and formal demand for payment by a specified date, with a letter immediately at the expiration of the limit notifying the customer that suit would be started if not remitted at once. If the customer was temporarily embarrassed, a promise would perhaps be secured of payment at an agreed later date with no further letters except a brief reminder of the promise a week before the date set.

SOME APPLIED PSYCHOLOGY—RESELLING

A good deal of the success of collecting depends on the skill with which the debtor's mental attitude is sized up and means taken to adapt the appeal to this attitude. Gardner¹ points out that collection is often a matter of reselling the customer. One large correspondence school, selling its

¹Gardner, E. H., *New Collection Methods*, The Ronald Press Company, New York.

courses on time payments, was losing a great deal of money on abandoned contracts and unpaid courses. An analysis of a number of cases showed that the trouble lay in the fact that the subscriber did not "stay sold." Better selling methods, a monthly house organ sent gratis to students, and some improvements in courses, not only increased sales but substantially diminished abandoned contract losses. In all the causes of non-payment listed under the heading of "dissatisfaction," the whole problem of collection is to find and remove the grievance, to restore the customer to a feeling of friendly confidence in the house. The whole selling policy and method bear a very intimate connection with collections. If the salesman loads the customer up with a big bill of goods, there are bound to be collection difficulties in some cases and coldness toward future approaches, in all. If the salesman creates a poor impression, the customer is apt to conclude that the house is second-rate and not be as apt to respect requests for payment. Detail of stationery, correspondence, business-like methods, all help to create or destroy prestige.

INERTIA

The next great problem in collections is to fight the inertia, the "tomorrow" attitude, which is so common a characteristic of the slow-pay debtor. Here, "well begun is half done." If the invoices, statements, requests for payment, follow promptly and in business-like fashion, the debtor gets the impression that the firm, though courteous, is not to be trifled with. A right start with the customer is a great aid in subsequent easy collections, and the credit department should be on the alert to see that the first delinquency is promptly but courteously noticed.

If the account nevertheless gets into the slow stage, the best method with this class of debtor is to dun him frequently. The letter never threatens, never contains ultimatums, beyond a courteous hint that since payment is

MONTHLY ORGANIZATION OF WORK		1	2	3	4	5
6	Second follow-up (telephone or letter) to old accounts, three instalment past due. Fourth follow-up (personal call) to old and new accounts, three instalment past due. Pick up merchandise, account past due.	7	8	9	10	11
13	Dictate letter to special accounts overdue. First follow-up (telephone or letter) to old accounts, two instalment past due. Second follow-up (telephone or letter) to old accounts, three instalment past due. Third follow-up (letter) to old accounts, four instalment past due. Fourth follow-up (letter) to old and new accounts, four instalment past due.	14	15	16	17	18
20	First follow-up (letter) to old accounts, two instalment past due. Second follow-up (letter) to old accounts, three instalment past due. Third follow-up (letter) to old accounts, four instalment past due. Fourth follow-up (letter) to old and new accounts, four instalment past due.	21	22	23	24	25
27	First follow-up (telephone or letter) to new accounts, four instalment past due. Second follow-up (telephone or letter) to new accounts, four instalment past due. Third follow-up (telephone or letter) to new accounts, four instalment past due. Fourth follow-up (telephone or letter) to new accounts, four instalment past due.	28	29	30	31	32

System, February, 1925, p. 170.

Figure 19: Collection program of an instalment house.

inevitable "it is for your interests as well as ours" not to let the bill run. Usually such a debtor is letting all his bills run more or less, and is paying some of them and letting the rest run as long as he dares. The man who is paid first in this case is usually the persistent one. The debtor may feel more kindly toward the lenient one, but he wants peace and he lets the lenient creditor wait and pays the insistent one.

Too regular sending of bills in routine fashion loses its effect by repetition. Like the darkey who wasn't afraid of work, the debtor gets so that he can go to sleep right alongside of his spindle of unpaid bills. This may be equally true of the plain dun or of the lurid but stereotyped collection letter. The appeal should be varied if it is felt that this is the case. Sometimes a telegram is used to secure attention, or a draft is placed for collection through the customer's bank. Sometimes the approach is changed. Occasionally an effective bit of selling will not only bring in a new order, but settlement of the old. This method must be used cautiously to avoid sending good money after bad. If an order is received from the customer, delay in shipping, with or without comment, may bring results. At this time, a request to pay is effectively reenforced by the customer's desire for the goods.

Excuses should not be furnished the customer for non-payment. In the stage of finding the reason for non-payment, care must be taken to keep the inquiry general and not too solicitous, to avoid this difficulty. Flippancy, humor, personal allusions, all tend to weaken the creditor's position.

The ideal collection letter is dignified, courteous, and definite. It is studiously impersonal—"we regret that it is necessary to follow the policy of the house. We are sure you intend to do the fair thing, but in fairness to our other customers we feel that we cannot make an exception in this case." Excuses and apologies are not necessary with a request for payment of a past-due bill.

DISCOURAGEMENT

The primary cause of the debtor's failure is, of course, economic. Lack of capital, wrong business methods, excessive competition, poor location, catastrophes or losses, changes in demand, take their inevitable toll. But in any business which is not doing well there usually comes a definite point at which the debtor gives up. A small merchant, optimistic over a good year, decides to expand his business and orders a larger stock on credit. His expectations prove

MANUFACTURING	
Furniture _____	6.5 years
Flour and grist mills _____	10.7 "
Iron works _____	8.6 "
Printing _____	6.7 "
Lumber and timber _____	7.0 "
Boots and shoes _____	7.5 "
Cigars and tobacco _____	7.5 "
Hosiery and knit goods _____	10.0 years
Creamery goods _____	5.0 "
Brass, bronze, and copper _____	5.4 "
Clothing _____	9.2 "
Drugs _____	5.3 "
Automobiles _____	5.0 "
Carriages and wagons _____	7.0 "
Average for these 14 leading lines _____ 7.2 years	
Average for 213 other lines _____ 6.8 "	
General average for manufacturing concerns _____ 7.0 "	
WHOLESALE	
Bakery goods _____	6.6 years
Boots and shoes _____	10.0 "
Butter and eggs _____	5.3 "
Cigars and tobacco _____	6.5 "
Clothing _____	6.6 "
Confectionery _____	9.2 "
Dry goods _____	7.5 "
Flour and feed _____	7.6 "
Fruits _____	6.2 years
Groceries _____	10.9 "
Hardware _____	8.5 "
Lumber _____	7.4 "
Meats _____	6.5 "
Paints, oils, and glass _____	6.1 "
Paper _____	8.5 "
Produce _____	7.5 "
General average for wholesale concerns _____ 7.5 Years	
RETAIL	
Groceries _____	7.1 years
Hardware _____	7.9 "
Paints and wall paper _____	6.7 "
Drugs _____	7.8 "
Books and stationery _____	6.9 "
Jewelry _____	7.2 years
Dry goods _____	6.9 "
Clothing _____	6.4 "
Boots and shoes _____	7.4 "
Furniture _____	6.8 "
General average for retail concerns _____ 7.1 Years	

Report Number 62, "Business Death Rates," A. W. Shaw Company, 1925.

Figure 20: The average life of businesses.

unfounded and he finds it harder and harder to meet bills. Where he formerly took pride in discounting all bills, he lets now one slip, now more of them. Trade continues poor, and he begins the long, dragging fight against discouragement. He begins to hate the sight of the store that is sucking in all his hopes, his capital, and is giving him so little in return. He goes to work later, he becomes indifferent to appearances, he does not put the same confidence into his selling. The point is not far off at which he will finally give up, abandon the enterprise, and bitterly decide to let the creditors get what they can out of it.

If at this point the credit man can give the man renewed hope of eventually pulling his business out of its difficulties, he will not only save a customer whose loyalty to the house thereafter is assured, but he will save his house a very serious financial loss. A stock of goods in the hands of a dispirited and indifferent dealer, or of an auctioneer or professional receiver, takes on a sudden large shrinkage in value. It is part of the credit manager's job to decide in which cases there is a chance for the business man to recover, and to lend him all reasonable assistance in doing so, where such assistance promises results.

EDUCATION OF THE CUSTOMER

The credit department has the opportunity for doing constructive work to the benefit both of the customer and the house. The value of forming habits of promptness has been mentioned. Often the debtor is making some fundamental mistake in his business methods, and the credit man is able to point out the trouble and help him correct it. Of course, in some cases the trouble is temperamental. Indolence, lack of caution, lack of emotional balance, procrastination, are hard faults to correct in a man of 50 who does not believe in his ability ever to do much better than he is doing. But this is not true in all cases. Particularly in preaching the simple truths of business, such as the impor-

tance of turnover and collections, so often forgotten, can good be done. E. M. Skinner tells of being asked by a chamber of commerce of a medium-sized town to address a mass meeting of citizens on the abuse of retail credit and its effects on the development of the town.

Sometimes what the debtor needs is not dunning letters at all, but simply practical help in the way of an extension of the time of payment to help over a hard period. In such cases it may be possible to ask for and obtain some form of security, or to put the account in the form of one or more

MANUFACTURING

Inflexible advertising policies
Carelessness in making contracts
Neglect of established line
Unwise experimentation
Concentration on unprofitable line
Exorbitant overhead expense
Diffused attention
Heavy borrowing
Over-production
Poor design
Inexperience
Lack of capital
Poor equipment
Building on another's reputation

One-man domination
Overlooking new demands
Poor fire protection
Unstandardized product
Interference of stockholders
Lack of systematic methods
Difficulties in getting raw materials
Not investigating market before starting
Bad buying
Too much waste and spoilage
Trying to change market to fit product,
rather than product to fit market
Too much competition
Antiquated selling methods

WHOLESALE

Eagerness for big profits
Lack of organization by lines
Failure to cooperate with other lines
Too much competition
Failure to advertise
Overbuying

Lack of supply for private brands
Indiscriminate extension of credit
Failure to foresee changes in style
Poor collection methods
Unwillingness to help the retailer
Handling inadequately advertised lines

RETAIL

Failure to investigate the trade
Unwise selection of clerks
Failure to build a store personality
Ignorance of overhead expense
Bad accounting and poor collections
Overbuying
Cut-rate competition
Poor delivery system
Lack of capital
Poor location

Undue eagerness to make a big splurge
Labor difficulties
Bad health
Failure to take a legitimate profit
Poor stocks
Increasing cost of doing business
Poor equipment
Unsupported advertising
Small margin of profit
Returned goods

Report Number 68, "Business Death Rates," A. W. Shaw Company, 1925.

Figure 21: The causes of business deaths.

notes. If the customer's position is basically sound and his record warrants confidence, the house may continue to supply his immediate needs on a credit basis. If this is inadvisable, he can be sold c.o.d. until his account is in better shape. With a trustworthy debtor some firms even go so far as to advance the money to pay up the most troublesome of other obligations, in order to protect the customer until he can be gotten on his feet. If this can be done, of course, the customer is usually made a friend for life. It is often better to take some chance of loss, if there is a reasonable chance for recovery of the customer's position, than to suffer the certain loss that comes with a forced liquidation. Action here, of course, is governed by circumstances in each case.

TAKING ACTION AGAINST THE DEBTOR

If the repeated request for payment brings no response, the next step may be a refusal to sell the customer until the old bill is paid. This must be used with discretion, for it may simply divert the customer's business to another firm, offend the customer, and still further weaken any hold on him. It is better to suggest a c.o.d. basis, which the customer is often willing to accept.

If the firm does not have its own legal department, it may be best, when direct correspondence fails, to turn the account over to a collection agency or a local attorney for collection. The collection agency must be carefully selected, for there is a great difference in competence and reliability. Fees are usually on a percentage basis. Generally by this time any hope or desire of retaining the account is lost and the only object is to get the money that is due. The attorney or agency will usually make a formal written demand for payment, sometimes personally (the better way), sometimes by mail. If this is refused, the next step is suit. The creditor's attorney appears in court (as a municipal justice court) and claims the amount of the indebtedness as due

to his client, submitting evidence of the debt, which may be an itemized account, signed receipt, evidence of witnesses, and so forth, as may be necessary. The defendant of the suit is served notice of the hearing and submits his evidence if the claim is in dispute. If there is a difference on questions of fact, either side has the right to call for trial by jury, or this right may be waived and the findings of the judge accepted. If the verdict or finding supports the creditor's claim, a judgment is entered accordingly, and this judgment constitutes legal and (except by appeal to higher courts) incontrovertible evidence of the indebtedness. This judgment in itself, under the law of many states, gives a lien or preferred claim on the property of the debtor. If the judgment is not satisfied, the creditor next applies to the court for a writ of attachment, or writ of execution, under the powers of which a bailiff or other officer of the court is empowered to seize property of the debtor, sufficient in value to satisfy the claim of the creditor and expenses of sale, and turn this property over to the creditor or sell it at public sale for his benefit.

A writ of attachment is permitted by statute of most states, to be obtained prior to the obtaining of a judgment, if it can be shown:

1. That the debtor is not a resident of the state in which the property is held, or
2. That he has left the state or is leaving, with intent to defraud the creditor, or
3. That the property has been concealed or removed with intent to defraud, or
4. That it was secured by fraudulent representations.

The creditor is required to furnish bond, as a protection against improper and unwarranted seizure under writ of attachment.

OTHER LEGAL RECOURSES

In most states a bulk sales law has been made part of the statutes. The purpose of this law is to protect the

creditor against sale of a merchant's stock in bulk at a low price, with the intent of defrauding the creditor. The law provides usually that before such sale is made, creditors must be notified by the buyer of the pendency of the sale, either individually under some laws, or by public notice under others, at least five days before such a sale is consummated, thus giving them the opportunity to attach the merchandise or to take other action to protect their rights. If such notice is not given, the sale is *ipso facto* void in some states. In others, the burden of proof of its being a *bona-fide* sale rests on the purchaser, and, if it can be shown that the act was not complied with, the sale is void, leaving the property available for the satisfaction of the creditors.

Stoppage in transit is a right allowed the creditor who has delivered goods to carrier, to order their diversion if he finds that the consignee is insolvent. If goods are shipped by common carrier on an order bill of lading, the shipper has the privilege of stopping the shipment at any point short of actual delivery and of reconsigning the goods to himself or to another customer.

EXTENSION AND COMPOSITION

The best method of handling a debt may be by granting an extension to the debtor. It is advisable in this case to ask additional security in the form of notes, which may be secured by collateral or by mortgage.

Where it is evident that the debtor's liabilities are in excess of his assets, that he is, in short, insolvent, the greatest salvage may sometimes be obtainable by a composition. A composition is an agreement between creditors and debtor whereby the former accept less than the amount of the indebtedness in full discharge of the obligation. The initiative may come either from debtor or creditors. Sometimes the offer is fraudulent in the sense that the debtor misrepresents his financial condition, and, of course, if this is discovered, any agreement made is not binding on

the creditors. Only those creditors who specifically agree to the composition are affected by it, therefore to protect their interests it is common to make acceptance of the composition contingent on its acceptance by all creditors. There is then the tedious task of persuading the other creditors that it is to their interest to permit settlement. The threat of putting the debtor into bankruptcy may be used to bring recalcitrant creditors into line, or a few small claims may be paid off in full, if there is no other way to dispose of them.

The terms of the composition may call for an immediate cash payment by the debtor in settlement, although this is usually so difficult to arrange as to suggest, when it is offered, that the debtor has more property than he claims to possess. The debtor may be allowed a specific time to liquidate his stock and accounts and make settlement. A trustee or a creditor's committee may by agreement take immediate possession of the debtor's business and liquidate it by selling out or as seems advisable. The debtor may or may not be permitted to go on with the business. Sometimes the composition calls for a partial payment in cash, with an agreement to pay fixed percentages at monthly intervals, three or six months. This type of settlement is usually rather risky. The composition settlement is to be preferred to bankruptcy proceedings where possible, since the heavy legal expenses of bankruptcy are avoided by composition.

BANKRUPTCY

A debtor is insolvent under the Bankruptcy Act when his assets, taken at a fair valuation, are insufficient in amount to pay his debts. It is considered to be public policy, when misfortune has attended a man's honest business ventures, to provide a procedure by which the creditors may satisfy themselves to the extent of the available assets, and the man may be released from his debts and permitted to start afresh. The laws of most states allow the debtor certain exemptions, such, for example, in Illinois, as a home-

stead up to the value of \$1,000, and certain other exemptions. Bankruptcy may be voluntary or involuntary. A person may be declared an involuntary bankrupt, within four months after the commission of one of the following acts of bankruptcy:

1. Conveying, transferring, concealing, removing or permitting to be concealed or removed, any part of his property with intent to hinder, delay, or defraud his creditors or any of them.
2. Transferring, while insolvent, any portion of his property to one or more of his creditors with intent to prefer such creditors over his other creditors.
3. Suffering or permitting, while insolvent, any creditor to obtain a preference through legal proceedings, and not having at least five days before sale or disposition of any property affected by such preference vacated or discharged such preference.
4. Making a general assignment for the benefit of his creditors, or, being insolvent, applying for a receiver or trustee for his property or because of insolvency having a receiver or trustee put in charge of his property under the laws of a state, of a territory or of the United States.
5. Admitting in writing his inability to pay his debts and his willingness to be adjudged a bankrupt on that ground.

A petition in bankruptcy is filed in a federal district court by a certain number of creditors and evidence is taken by the court or by a referee in bankruptcy. If the petition is not contested, which usually is the case, or on trial if it is, the party is adjudicated a bankrupt. If conditions require immediate steps for the preservation of the property, a receiver is appointed by the court immediately on filing of the petition. The bankrupt, upon his adjudication, is required by law to file a schedule of his creditors and of his debts and his assets. A first meeting of creditors is then held, the bankrupt may, if desired, be examined by the creditors and a trustee is elected. The trustee takes title to the bankrupt's estate and proceeds to administer it, liquidating it as rapidly as possible. The trustee is required to file a bond for the faithful performance of his duties, and succeeds the receiver where one has been appointed.

Creditors are required to file sworn proofs of debt. At such intervals as are deemed appropriate and as are provided by the Act, a dividend is declared from the bankrupt's estate and distributed *pro rata* to creditors.

Upon satisfaction of these requirements of the law, the bankrupt is permitted to petition for his discharge from bankruptcy. A hearing is held, notice having been sent to all the creditors. Any creditor has the right to object to the discharge of the bankrupt if the provisions of the Bankruptcy Act have not been complied with. The discharge releases the bankrupt from all except certain special classes of debts. It may be denied if it can be proved that the bankrupt secured property upon the basis of fraudulent written representations (such as fraudulent statements) or that he concealed or destroyed or failed to keep books of account, with the intent of concealing his financial condition, or that he made a fraudulent conveyance of property within four months preceding bankruptcy, or that he has refused to obey court orders, or that he, if a voluntary bankrupt, had received a discharge in voluntary bankruptcy within the six years previous. If the debtor does not obtain his discharge, he is still liable for the debts. For concealment of property, making false oaths, or attempting to extort money for acting or refusing to act in bankruptcy, the bankrupt may be refused a discharge and given up to two years in prison.

The bankruptcy laws are unquestionably abused by some debtors. It is difficult, in many cases, to prove concealment or fraudulent transfer, and a fraud sometimes perpetrated is to incorporate one company, conceal part of the assets, go through bankruptcy, incorporate a new company, and, after a discreet interval, gradually introduce the concealed assets into the new business. Even without legal fraud it is possible for a man, if he can get credit (and who cannot, somewhere?) to buy a stock mostly on credit and live it up, letting it disappear in the expenses of doing business and supporting a family. Then with the exemptions allowed

by law, a new parasitic business is started. Of course it becomes harder to get credit, but the men who live in this way are shifty customers, well versed in the art of remaining inconspicuous. But the efforts of credit men's associations and reputable business men and lawyers generally, are aimed at the correction of abuses and discovery of fraud, and the bankruptcy law furnishes a needed protection to the honest debtor and an orderly and equitable method of realizing upon an insolvent property for the creditors.

FINANCIAL DIFFICULTIES OF LARGE PROPERTIES

Several classes of corporations, such as railways, banks, insurance companies, and municipal corporations, are not permitted to go into bankruptcy. For any large established property (and, indeed, for many smaller ones) forced liquidation would be a very costly and wasteful method or realization, for it would destroy good-will and organization values which might constitute a considerable portion of the value. Such properties, especially if in financial difficulties, may be almost impossible to sell as going concerns. Therefore, if there seems to be a chance that by better management the company can be salvaged, arrangement is often made for a temporary trusteeship or receivership, by which an individual or committee is appointed to continue the business under carefully defined restrictions. Various adjustments are made in the position of the owners or stockholders, and the bondholders or other creditors. Bondholders are sometimes given preferred stock and new issues of bonds are subscribed for by the interested parties to furnish the funds needed for consolidation. Priority of claim is the all-important element of position in such readjustments. The bondholder may come out with little or no loss, the stockholder may at times lose his entire equity.

XVII

BANKING

Credit a commodity. The functions of the bank. Classes of banks. State banks. National banks. Savings banks. Trust companies. Other financial organizations. The organization of a bank. Operation of the bank. The clearing-house. Loans. Discounts. Secured notes. Collections. Bank accounting. Bank examinations. The Federal Reserve System. The relation of the business man to the bank.

CREDIT may be regarded as a commodity, bought and sold in a highly organized market which has some similarity to the market in which more tangible goods are exchanged. In this marketing of credit the banks play an important part, acting also as a reservoir of funds, receiving surplus money not actively employed and rendering it fluid and available in the places where it is needed.

THE FUNCTIONS OF THE BANK

The bank first of all *receives deposits*, affording the depositor the convenience of safekeeping and the privilege of withdrawing funds personally or on order, at his convenience, furnishing him the facilities of the bank building and the services of its employees, stationery, and incidental services. In return for this service the bank secures the use of the depositor's funds, which it is free to loan out at interest up to a certain proportion of the total deposits. Experience has demonstrated that during the ordinary course of business, demands for the withdrawal of money will be largely offset by new deposits and receipts, and that only a small reserve of cash, as low as 3% in the case of time deposits, need actually be held in the bank. From 85% to 97% of the deposits are available for lending.

The second function of the bank is the *making of loans*. Since by far the greater percentage of these loans are simply the employment of the depositor's funds, rather than the bank's own capital, the bank is really acting merely as a distributor of the commodity of credit to the borrower, substituting its own credit for that of its borrowers. The bank's credit is superior to that of the borrower for several reasons, as follows:

1. By law and by policy its risks are distributed, and only a small portion of the total of its loans is made to any one firm. The failure of a single customer will not carry a properly conducted mercantile bank with it, although wide-spread embarrassment, such as that which recently was felt in some of the northwest agricultural states, may endanger the banks of a region.

2. Each loan made has been subjected to examination by experienced and trained men, with a thoroughness and dependability which would be impossible to most customers in making a loan direct.

3. The banks of the country, through the agency of the Federal Reserve System, of the clearing-houses, of the American Bankers' Association, and of various other collective activities, and through the operation of national and state laws and supervision, are restricted to banking practices which experience has proved safe, and are knit together into a close organization which in emergency supports any bank needing assistance.

The banking system of the country has passed through a gradual evolution from the unstable "wild cat" banks of the 1830's, to the present system. As a matter of fact, the stability of any state or national bank is so unquestioned today that the depositor seldom stops to realize that his deposit in the bank is, in the aggregate, not represented by money but by loans to business men.

A third function of the bank is that of *note issue*. Certain classes of banks are authorized to put their own notes

or promises to pay, into circulation as money, thus adding to the funds available for investment and lending.

The bank also performs many secondary functions of service to its customers. It may operate a savings department (a special form of deposit), a trust department, a safe deposit vault. It acts as agent for the collection of notes and drafts. One class of banks also act as brokers, aiding the customer to dispose of stocks or bonds. The bank also gives financial advice to its clients and supplies credit information on request.

CLASSES OF BANKS

There are several types of banks which have adapted themselves primarily to performing special classes of services for a particular type of clientele. One line of distinction is between private, state, and national banks. A *private bank* is one started by an individual or a group, not incorporated, and thus not obliged by the law of many states to conform to the regulations affecting an incorporated bank. Such a bank may accept deposits and perform most of the functions of banking except that of note issue. Generally such banks lack the prestige of the state and national banks, and, with some exceptions, they are influential mainly in foreign sections where the people are unacquainted with American customs and regulations and prefer to deal with their own countrymen. Because of the fact that in the absence of strict supervision these banks were too often made the means of defrauding the credulous, there has been a movement to bring them under the same state supervision as other banks.

Quite a different type of private bank is found in the great individual banking houses, such as J. P. Morgan and Company. These banks are a combination of investment house and bank, confining their attention to assisting in, or taking charge of, the financing of large issues of stocks and bonds for their clients.

The *state bank* is incorporated under state laws, which differ in various states, but which generally provide for supervision by a state-bank examiner. It operates under somewhat different regulations and cannot issue notes. Otherwise, the state bank is similar in many respects to the national bank, and does a similar type of business.

THE NATIONAL BANK

The national bank is organized under the National Banking Act, passed in 1864, which provides that such a bank may be organized by not less than five men, who forward to the Comptroller of the Currency (an official of the Treasury Department) a copy of articles of association entered into by them. These articles of association correspond in general character with the application for a charter of a corporation, and an organization certificate is returned by the Comptroller, if the formation of the bank is approved, which corresponds to the charter. Minimum capital requirements are specified, running from \$25,000 in towns of 3,000 people or less, to \$200,000 in towns exceeding 50,000 people. Shareholders are liable for debts of the bank to an amount equal in value and in addition to the value of their capital stock. The bank cannot lend more than 10% of its capital and surplus to any one company or individual, with the exception of certain secured loans.

The unique characteristic of the national bank under the act was its authority to purchase designated issues of bonds of the United States, to deposit these bonds with the Treasurer of the United States, receiving the interest on these bonds, and to have issued for them, by the Treasury, national bank notes, which could then be loaned out by the bank at the usual rate of interest, thus earning a second profit. A deposit of 5% of the value of the notes must be made with the Treasurer, as a redemption fund, and a small tax is levied on the circulation of the notes. National banks are directly under federal supervision, being examined by

the national-bank examiners. The Federal Reserve System, in which membership is open to state banks as well as national banks, and in which the issue of Federal Reserve notes is gradually taking the place of banknotes, has tended to make the distinction between the national and the state banks of less importance.

The state and national banks usually deal in short-time mercantile loans. They are permitted to handle mortgage loans under certain restrictions, and some banks do quite a little of this business, but the usual and primary activity is commercial banking. Often, however, savings, trust, and other departments are added.

SAVINGS BANKS

The business done by savings banks is more of a long-time character, and such banks are large purchasers of mortgages and of approved types of bond issues. Savings deposits draw interest at from 3% to 4%, and are not subject to check. Thirty days' notice before withdrawal may be required by the bank if necessary. This relative stability of deposits enables the bank to handle longer-term loans such as those named. Savings banks are organized as stock or as mutual companies, and savings departments are a feature of many commercial banks.

TRUST COMPANIES

The trust company is organized to administer estates, act as guardian to minors, as trustee of funds and of bond issues, and in similar fiduciary capacities. In doing so it is frequently called upon to invest the funds of its clients, and thus often develops a long-term banking or investment business as an incident to its fiduciary activities. Banks are now very frequently adding trust departments, their acquaintance with a clientele of borrowers and depositors giving them a natural advantage in inducing their customers

to name the bank as trustee in their wills, and to commit other trust matters to its safekeeping.

OTHER FINANCIAL ORGANIZATIONS

Similar or closely related to banking are the activities of a number of other types of institutions. *Safe deposit* companies advertise to the public, fire- and burglar-proof vaults for the storage of valuables, renting these boxes or vaults on a scale of prices based on size. The renter is given a key, which must be used in connection with a master key held by the attendant, to open the box. The contract usually exempts the company from liability in case of fire or burglary, but great precautions are taken against such losses.

The building and loan association, already mentioned, is essentially a financial institution. In 1920 the membership of such cooperative associations was nearly five million, and their deposits exceeded two and a half billions of dollars.

The mortgage company is often, although not always, connected with a real estate firm, and lends money on long-term loans secured by real estate, selling these mortgages to investors and usually charging a commission for placing the loan.

Note brokers specialize in selling short-term notes, say for 90 days or longer, of industrial and other companies. Such notes may be sold to banks or to private investors. Usually one firm of brokers specializes in placing paper of one particular type of business, being thus in a position to pass on the credit of the borrower intelligently and to build up a favorable record as to low losses, with clients.

Stock and bond houses perform a similar function in floating issues of longer term or capital securities. They may buy such issues outright, selling at a profit, or may charge a commission for selling.

Some large businesses have found it possible to act to a

certain extent as their own stock and bond brokers. The Commonwealth Edison Company, of Chicago, and others of the Chicago utilities, advertise their stock widely to consumers, operate a subsidiary financing company for the purpose, and pay a commission to employees for selling shares.

Stock exchanges are organized in the principal cities for the purpose of trading in shares. Members purchase "seats," which entitle them to participate in buying and selling on the floor, and trading must conform strictly to rules promulgated by a board of governors, which has authority to suspend or expel any member for violations. Shares are sold on commission. On conforming to certain requirements and meeting the approval of the board of governors, a stock may be "listed" and sold on the exchange. This gives the stock a distinct advantage in the way of a standardized market and recognition, which makes it easier to dispose of shares.

THE ORGANIZATION OF A BANK

A bank is started like any other corporation by a group of men with money to invest. Stock is subscribed and an application made for a charter or organization certificate. The directors of the bank are held responsible to the stockholders for the proper conduct of the bank and the board is required twice a year to make an examination of the condition of the bank, verifying accounts and inspecting loans which are on the company's books.

The president, vice-president, secretary, and treasurer have duties corresponding to those in the usual corporation. In the larger banks, the vice-presidents frequently act as heads of the various departments. They are often business men, not necessarily with banking experience, chosen for their knowledge of manufacturing, mercantile, trust, or other fields, and expected to get business and supervise the granting of loans in their particular fields.

The executive, or discount committee, is a committee appointed by the board of directors from its number which exercises active authority for the management of the bank, and to which all important loans are referred for approval.

The cashier corresponds to the general manager. He supervises all accounting, the work of the tellers and other employees, and deals direct with customers in arranging loans, opening new accounts, and so forth, subject, of course, to the approval of his superiors. There may be one or more assistant cashiers. There are also one or more paying tellers, receiving tellers, note and discount tellers, a collection department, bookkeeping department, and special departments such as savings, trust, investment (selling securities), and safe deposit.

OPERATION OF THE BANK

In opening a new account with the bank the depositor introduces and identifies himself and offers funds for deposit. He is asked to sign one or more signature cards for subsequent comparison and identification. He is given a passbook, in which deposits are entered, and a check-book. Some banks will not accept an account showing an average or a minimum balance of less than a certain amount, or else they will make a monthly charge for carrying such an account, considering that the costs of clerical and other service make the small account show a loss. On the other hand, many banks pay interest, say at 2%, on that part of the monthly balance in excess of \$1,000. Checks properly indorsed, and cash, are entered on a deposit slip by the customer and presented to the receiving teller for deposit. Frequently checks are on banks in other cities, and it may be several days before the funds actually are collected. Where this is the case, the bank sometimes does not credit the customer's account until collection is made.

W. H. Kniffin¹ describes the procedure used in verifying

¹Kniffin, W. H., *American Banking Practice*, McGraw-Hill, New York.

these checks by the receiving teller. There is frequently a line at the window, and the receiving teller does not stop to verify the totals on the deposit slip, but glances at each check to see that it is indorsed and to catch other possible errors, and leaves the verification for assistants. This verification is often done hourly or at frequent intervals, the checks being sorted into those on local banks, on the bank itself, on out-of-town banks, and so forth. Checks and deposit slips are totaled and should correspond. If not, the error is located and the customer notified, if it affects his deposit. The customer, in indorsing a check, assumes liability for its non-payment, and deposits are accepted "subject to collection." Care must be used by the receiving teller to avoid counterfeit money and to count correctly. Mail receipts can be handled in a less hurried manner.

In paying out money a slightly greater degree of responsibility is necessary. Here there is the danger of paying checks on forged signatures or forged indorsements, in which case the bank may be held liable by the depositor. Checks may be stopped for various reasons, such as loss of the check, or fraud in securing the check. In this case the maker notifies the bank in writing to stop payment of the described check. The paying teller must be on the watch for these, also for overdrafts on which payment is refused for lack of funds. Post-dated checks are also to be guarded against, as must be discrepancies or errors made in writing the check. Evidences of fraudulent alteration or raising of the amount must also be looked for.

Money is handled by the bank in packages of fixed amounts of one denomination, thus reducing errors and facilitating counting, and a verification will be made at least once a day of the amounts in the various cages, the paid or received checks balancing the amount paid out.

It is the practice in some banks to make no distinction between paying and receiving tellers, one teller acting in both capacities. While this requires a higher type of skill and alertness, it tends to give quicker service to the public.

THE CLEARING-HOUSE

Every bank, in the course of a day's business, receives many checks drawn on other banks, local and in other cities, and these and other banks in turn are receiving its checks. To simplify the settlement of these checks, a clearing-house is organized in about 200 of the larger cities, to which the member banks daily send representatives to clear these outside checks, thus saving cross-payments and unnecessary transportation of funds.

In clearing, checks, properly indorsed, are sorted according to bank and placed in envelopes bearing the name of the depositing and the paying bank and the amount. These checks are then distributed to the paying bank and receipted for. The debits and credits for each bank are then balanced, and each bank determines its debit or credit balance with each of the other banks. These balances, between local banks, are settled by direct payment in cash, or in clearing-house certificates representing money deposited with the clearing-house. It is becoming the custom to settle balances through the Federal Reserve bank, this bank being notified of the amount owed by one bank to another, and debiting and crediting each bank respectively.

LOANS

The needs for money by a business are of two types. First is the temporary need for money made necessary to finance seasonal increases in business, to meet large payments, and for similar short-time needs. The second type is for more permanent requirements, which amount to permanent additions to working or fixed capital. It is not the function of the commercial bank to meet needs of this latter type, for which the borrower should resort to bond issues or to the sale of capital stock.

For needs of the former type the business man will approach the bank with which he does business and will re-

quest a loan or establish a line of credit. When a line of credit is established, it is agreed between bank and borrower that, subject to the maintenance of satisfactory conditions as to credit by the borrower, the bank will lend money as requested up to the amount agreed on as the line, during a given period.

In making the application for a loan the borrower may offer security, or may make the loan on the strength of his financial position and the bank's confidence in his ability and intention to repay. The borrower is usually expected to explain the purpose for which the money is to be used, and to present a statement very similar to that shown on page 227. The bank will record this information in a credit file similar to that of the mercantile credit man.

Loans made by the commercial bank are usually for 30-, 60-, or 90-day periods, and the bank is usually willing to renew such loans at maturity if so arranged in advance. It expects the borrower to clean up his account at least once a year, affording visible evidence of the fact that the money is not being used as part of the permanent capital of the business. The bank also expects the borrower to keep part of the loan on deposit. The requirements differ, some banks figuring on a minimum deposit of not less than 20% of the loan, others considering the average balance maintained by the borrower. As a matter of fact, a loan is seldom paid to the borrower in cash, but he is given credit on his checking balance for the amount of it. The requirement as to cash balance is not often a hardship to the borrower, since he must have a balance to draw against in any case. It increases the deposits of the bank and has somewhat the effect of collateral, since the agreement gives the bank the right to debit the customer's account in case of any default.

DISCOUNTS

A loan is an advance of money on a note, on which principal and interest are payable at maturity. A note, either

the customer's own note or an indorsed note, is said to be discounted when the interest is deducted in advance. Most commercial banks discount their customers' notes.

It is sometimes cheaper for the large borrower to sell notes to note brokerage houses than to borrow from the bank, since no deposit is required. A premium ordinarily has to be paid, however, and the borrower does not have the same reserve support which he may expect from a bank. Where right relations are established with a good bank and a record meriting confidence is made, the business man can count on the banker as a friend who will assist him with invaluable advice and counsel and usually support him to the limit in any emergency, in which the bank can act without imperiling the moneys in its trust.

SECURED NOTES

Many loans are made on the basis of secured notes. Security is commonly of the following types:

1. Collateral—stocks or bonds having a market value in excess of the loan. Stocks usually have printed on the back of the certificate a blank to be filled out, authorizing transfer of the stock to another party, and this blank is indorsed and the stock is deposited with the note at the bank, which is given specific authority, by the terms of the note, to sell or dispose of the stock or bond in case of default of the note or to call for additional security in case the market value of the collateral becomes reduced to a point insufficient to protect the note. The accounting for this collateral and following its market value presents a managerial problem of some importance.

2. Warehouse receipts, showing good title to grain in storage elevators, produce, or other marketable merchandise in cold storage or other public storage houses, form good collateral, when the goods are marketable and not subject to substantial deterioration or decline in price during the

period of the loan. Since the warehouse receipt is in itself title and calls for the delivery of the goods, no formalities of transfer are necessary beyond the authorization to take title in event of default, contained in the note.

3. Bills of lading, made to the order of the shipper, are also often accepted as collateral, corresponding in nature to the warehouse receipt. The usual method is to draw a "sight draft attached to bill of lading" and discount the draft, which is forwarded with the bill of lading to a bank in the customer's city and must be paid in order to obtain the bill of lading and release of the goods.

4. It is not the general practice of banks to lend money on customers' accounts as specific security, but there are many concerns which specialize in this type of loan, and some banks will do so. Mention was made, in the last chapter, of one financing house of this type. The thing may be handled in two ways. Either the customer pledges himself to turn over to the bank, or financing corporation, money as received to apply on the specific accounts assigned, or the account is turned over direct for collection. In the former case, Smith, the customer of the borrower, hears nothing of the transaction, but when he pays his bill the money is turned over to the bank. In the latter case Smith is notified that arrangements have been made for him to pay the bill to the bank, or other financing company.

Various other securities are given, ranging all the way from savings banks pass-books to life insurance policies. Real estate and chattel mortgages are also used, but not as commonly on short-term loans. On the "unsecured" loan, the bank is, of course, secured by the whole property of the debtor, which may be levied upon for satisfaction if the obligation is defaulted, but such property is equally subject to the claims of other mercantile creditors, so that the bank runs a certain risk of loss in case of business difficulties of the borrower and must judge carefully as to the dependability of the borrower.

COLLECTIONS

The bill of exchange or commercial draft was described in the previous chapter. These drafts are very commonly presented to the bank, either for discount or collection. If the drawer is reasonably certain that the draft will be paid, he may indorse and discount it as he would a note. If it is simply in the nature of a prod to attempt to induce the customer to pay, it is advisable to ask the bank to forward it for collection and remit proceeds. A small fee is generally charged for this service.

BANK ACCOUNTING

The accounts of a bank are generally similar to those of any other business institution except for a specialization of the asset and liability accounts. There will be the usual expense accounts, classified as salaries, interest, taxes, expenses of operating the building, stationery, advertising, and so forth. There will be the usual capital accounts, the stock transfer book, and the surplus and capital accounts. Also the usual accounts payable ledger, for general accounts payable. The principal liability of the bank is to its depositors. The depositors' accounts are nowadays kept on loose-leaf ledgers, machine-posted. Each day's deposits, and the separate checks, are entered by the machine, picking up the previous balance and carrying it forward. Elaborate checks are necessary to see that items are correctly posted, and to the correct account. From this ledger sheet the monthly statement is taken off and tallied with the number of canceled checks or vouchers returned to the customer with the statement.

In the accounting for loans, a note register is kept, with a page to each customer, on which a record is made of the amount, date, date of maturity, collateral if any, and value, also all payments, constituting a record of the total current liability of the borrower, direct and on indorsement. A

record is also kept of all notes by day of maturity, constituting, in effect, a tickler file for collection. A short time in advance of maturity, notes about to become due are drawn from the files and forwarded for collection to out-of-town banks, or held for payment at the window by the borrower.

The application of cost-accounting principles by the bank was mentioned. This is done to analyze the profitableness of various customers' accounts. The net average balance, deducting checks deposited but not collected, and the amount originating from loans, can be found. Interest and other income from the customer are also known. Against this may be set the cost of the service rendered, based principally on the number of checks drawn, at a unit cost per check which covers stationery, bookkeeping, and the general overhead of the bank.

Not all accounts which are superficially unprofitable are undesirable. Depositors may be influential in bringing other accounts to the bank, or may be developing into what will eventually become profitable accounts. But this system tells a bank where its deadwood is located, and, as in the case of cost accounts, enables the bank to act intelligently in developing new business.

BANK EXAMINATIONS

The law requires the examination of the bank at frequent intervals, usually twice a year or oftener, by a state- or national-bank examiner. His coming is unannounced, and the examiner takes charge and seals all vaults. Cash is verified, notes and collateral are examined for correctness and correspondence with the records of the bank, and all assets must be accounted for physically or by proper receipt. A statement is called for as of the day of the examination. The bank's own auditor may follow the same system of unexpected audit, thus avoiding giving time to cover up any evidence of peculations by theft or juggling of accounts.

THE FEDERAL RESERVE SYSTEM

The banking system prior to the establishment of the present Federal Reserve System suffered from a number of serious faults. Currency was inflexible in volume, since notes could be issued only by the government or on the basis of government bonds by the national banks. Therefore, at any time of unusual business expansion there was danger of a money panic, caused by a shortage of money which caused the banks suddenly to be forced to refuse to renew loans. Interest rates rose to excessive levels, and gold was hoarded just when it was needed most.

A second serious fault was decentralization. Each bank stood alone, except for a measure of voluntary support which had been effected through the clearing-houses. Each bank, moreover, had to maintain its own reserves against deposits, with the result that money was needlessly tied up and, to a great extent, frozen.

The remedy for these and other serious evils was found in the Federal Reserve System. The country was divided into 12 districts, with Reserve banks at Atlanta, Boston, Chicago, Cleveland, Dallas, Kansas City, Minneapolis, New York, Philadelphia, Richmond, San Francisco, and St. Louis. National banks in each district are required to join the system, and state banks may do so. Each bank, on becoming a member, subscribes 6% of its capital and surplus, for stock in the Federal Reserve bank. Only 3% of this subscription has yet been called for. On this stock it receives dividends as earned up to 6%. Beyond this, earnings go into surplus up to 100% of the capital stock. Above this, 10% of the earnings go to surplus, the remainder to the government as a franchise tax.

Each Reserve bank is governed by a board of nine directors, three of whom are elected by member banks from among bankers, and three by the banks from among business men, the remaining three being appointed by the central Federal Reserve Board. This board consists of the

Secretary of the Treasury and Comptroller of the Currency, and of five members appointed by the President. The Federal Reserve Board acts as a board of governors for the whole system, exercising general supervision over the conduct of the Federal Reserve banks, authorizing note issues and, under certain restrictions, permitting a temporary suspension, for any Reserve district, of the reserve requirements.

One of the important functions of the system is the pooling of gold reserves. The reserves of all member banks are deposited with the district Reserve bank. Member banks are required to carry a reserve of 3% against time deposits such as savings bank deposits. On demand deposits (checking accounts, and so forth), local or county banks must carry a reserve of 7%, Reserve city banks, 10%, central Reserve banks (New York, Chicago, and St. Louis) 13%. Reserves may be shifted from one district in which they are excessive to another in which they are inadequate, by loans from one bank to another. The Federal Reserve banks must maintain gold reserves of 35% against the deposits of the member banks. The Reserve banks deal only with member banks, for ordinary banking transactions.

A second function of the Federal Reserve bank is discounting commercial paper for its members. Acceptances, notes, drafts, bills of exchange, banker's acceptances, may be offered for discount by member banks and held by the Federal Reserve bank, which also has the right to purchase such paper in the open market. Against securities of this character the Federal Reserve bank is authorized to issue Federal Reserve notes, but must maintain a gold reserve of 40% against such notes.

The Federal Reserve bank also acts as Fiscal Agent of the United States, the funds of the government being deposited with the Reserve banks. The function of the Reserve banks in clearing the checks of member banks, already alluded to, is a great convenience, which is gradually reducing the amount of exchange which used to be charged for cashing checks on out-of-town banks.

THE RELATION OF THE BUSINESS MAN TO THE BANK

A knowledge of the requirements which govern the bank and of the methods by which it operates should be of assistance to the business man in knowing both the extent and the limits of the service which the bank is prepared to render him. In the face of the possibility of unexpected requirements for money which are so common in business, as well as in consideration of the normal need for short-time loans, it is but a matter of common-sense policy to keep open as many reserve sources of funds as possible. Even where it is not necessary regularly to borrow money from the bank, it is often advisable to make occasional use of its facilities so that credit may be established and the way open to secure money when it is needed. Right relations with a good bank are a distinct asset to any business.

XVIII

RISKS AND INSURANCE

Chance unavoidable. Business hazards. Hazards of the elements. Fire. Failure of materials. Market hazards. Failure of individuals. Social and legislative hazards. Control of hazards. Removing uncertainties. Forecasts. Reserves. Transfer of hazards. Deferring commitment. Diversification. Integration of hazards. Insurance. Conditions of insurability. A real hazard. Control by the insured. Co-insurance. Distribution of risk. A calculable risk. Insurable interest. Agencies for insurance. Self-insurance. Mutual insurance. Reciprocal insurance. Stock companies. Lloyd's associations. Government insurance. Underwriters' associations.

THE nature of chance was discussed in Chapter VII. Although chance is synonymous with lack of knowledge, it is necessary, in many of the affairs of life, to act with only a partial knowledge of the facts. Business cannot be dissociated from the taking of risks, since inaction is often a greater risk than acting, even when a chance must be taken. Chances, however, can be minimized, and one of the important responsibilities of the business man is the reduction or neutralization of the hazards of business.

Any classification of the hazards of business has in it elements of artificiality, since the nature of chance is that it is the unexpected, that it is due to the combination of fortuitous elements. While many hazards of business fall outside of a classification or are caused by a combination of causes, the following list will suggest some of the commoner business hazards.

HAZARDS OF THE ELEMENTS

Storm, flood, hail, frost, cyclone, the ravages of insects and disease, take annual toll of industry. The Weather Bureau and the Agricultural Department have done much to

assist in foretelling and avoiding such disasters, but much remains to be done. Recent investigations seem to indicate the possibility of some measure of prediction of the longer swings of the weather cycle, which would be of great value. The losses caused to agriculture by bad weather and to retailers in the sale of seasonable goods, need not be elaborated upon.

FIRE, FAILURE OF MATERIALS

The nation annually foots a tremendous bill for fire losses. Failures of materials, collapse of structures, such losses as the spoilage of tools in tempering due to variations in metal or heats, or of machines before they have given the expected useful life, are all to a degree avoidable, yet not wholly so and they cannot be exactly predicted.

MARKET HAZARDS

A third and large hazard, perhaps the largest of all, is that due to miscalculation of market, and this applies equally to the buying and money markets, and to the selling market. Changes in price, the glutting of markets by good crops or by the entry of new competitors, style changes, the occasional falling off in demand which seems largely to be due to group suggestion arising from some insignificant rumor, the obsolescence of an article due to new inventions or improvements, any one of these causes may upset market plans. This hazard is one which must be considered in making practically all business plans.

FAILURE OF INDIVIDUALS

Hazards due to the failure of individuals are unfortunately common. Mistakes in judgment, stupidity, incompetence in the performance of tasks, dishonesty, unfaithfulness to a trust, or death or incapacity, are but a few of the personal and moral hazards of business, which affect it both from within and without.

SOCIAL AND LEGISLATIVE HAZARDS

A fifth group of hazards, which, like the first, is only slightly subject to individual control, includes those arising from unfavorable group action, such as unfavorable legislation, public opinion, and strikes.

Often hazards are interrelated, as where incompetent workmen are responsible for a failure of materials, poor salesmen or unwise management for destruction of demand or for unfavorable legislation, careless construction or supervision for fires.

No one of these hazards is often exactly predictable. One can never tell just when the right combination of circumstances will happen to produce a fire, or to lose a customer. Where it is possible to know and control the causes, however, part or all of the hazard may be removed.

REMOVING UNCERTAINTIES

One method of reduction of risk is by thus removing the elements of uncertainty. The value of standardization has been mentioned in this connection. With standard times and controlled conditions, a very material uncertainty is removed from production costs and program. With a standardized and uniform product, many of the hazards of demand are decreased. (This is subject to a contrary influence, diversification, later to be mentioned. Yet, so far as a variety of articles serve a single demand which would be satisfied with a smaller variety, it is true.)

Hazards may be reduced by forecasting. The studies of the business cycle have contributed in almost revolutionary fashion to the elimination of the old money panics and to the reduction and discounting of periods of business depression. The value of the budget to the individual business in forecasting events has been discussed. Weather reports, market analyses, furnish other illustrations of this method of reducing the hazard by foretelling its probability.

RESERVES

A third method of reducing the seriousness of unexpected losses and hazards is by the provision of reserves. In borrowing money for business, a wise man seldom or never touches his last reserve—up to the very last emergency he has, somewhere, property or credit which can be converted into cash. As Napoleon said, the battle is won by the last reserves. Similarly in manufacturing, the stock of raw materials and of finished parts, of work in process, constitutes a reserve which takes up the irregularities of production and demand. Advertising is often in the nature of preparation of a reserve. A firm may be able to get all the business that is possibly can take care of, yet it advertises, knowing that in unfavorable seasons the good-will built up will protect it in some measure from a falling off of demand, and from price competition which forces prices below the profit line.

Just where to draw the line between reserves and active capital or resources is a problem calling for a high degree of managerial discretion. The less the reserves and the greater the proportion of borrowed money to owned money in the business, the more rapid is the turnover and the higher the return on business, assuming the profit rate on the borrowed money to exceed the interest rate. Sometimes large chances must be run. But it is noticed that the man who exercises a moderate degree of caution and conservatism usually stays in business longest.

Reserves are not only a great protection against the unfavorable hazards of business, but they also make it possible to take advantage of unexpected opportunities. The man who can pay cash is in a position to pick up bargains at times.

TRANSFER OF HAZARDS

A fourth method of reducing hazards is by transfer. "Hedging" is the classic illustration of this method. A

millers manufacturing flour, does not desire to risk speculation in wheat. Yet his large inventory of grain and flour is affected by changes in market prices whether he will or not. So he goes into the market and sells, for future delivery, the same quantity of wheat as he buys, to be delivered at the same time as his flour will be marketed. Then, if the market goes up, he loses on the wheat he must buy to fill his short sales, approximately as much as he gains on the flour, and vice versa. He neither gains nor loses (except the expense of brokers' commissions) but passes on to some one else the risk of the transaction. Sub-contracting is another of various similar methods of passing on the risk of an undertaking.

DEFERRING COMMITMENT

A fifth method of avoiding risk is to defer commitment. The steel mills manufacture principally on sold orders, instead of making first, then selling. This, of course, involves delay in delivery, as from two weeks to six months may be required, according to the amount of unfilled orders ahead, before delivery can be made. To accommodate demands which cannot wait, there are steel jobbers and warehousemen who carry all staple sizes in stock and can ordinarily furnish immediate delivery, at a price perhaps 20% or 30% higher.

There has been a very noticeable tendency of recent years to shift the burden of risk toward the consumer as far as possible. Wholesale tailors now make up the bulk of their product after samples have been shown the retailer and orders taken. The same tendency is observed in the "hand to mouth" policy of retail buying. Except with remote stores where time and freight costs are a consideration, there is less carload buying. Many stores, favorably located with reference to supply, carry samples only, in the store, and fill orders from a very small stock replenished daily, or wait to order from the supplier, until the goods are

sold. Not only is the risk of changes in demand and price thus reduced, but turnover is increased.

DIVERSIFICATION

A sixth method of hazard reduction is by diversification or spreading the risk. The bank is safer than any one single borrower because its risks are distributed. Diversification of investments is a well-recognized rule for good investment. The same thing applies in the granting of credits. The old proverb about "putting all your eggs in one basket" applies here.

A basic rule for safe diversification of hazards is to so dispose them that they are unlikely to be unfavorably affected by a single common cause. Thus in making financial investments, it is a good rule not to buy one class of securities exclusively. Investments should be distributed among various classes, such as farm or city mortgages, industrial, railroad, and municipal bonds, shares in mercantile houses, and a geographical diversification is advisable.

Similarly in taking insurance risks, a dozen buildings in one block, all subject to a single conflagration, constitute a much more serious hazard than the same buildings in different towns. For the same reason, life insurance companies prefer several moderate-sized policies to one very large risk. Wherever possible, it is advisable to keep small enough the amount which could be lost in a single unfavorable event, so that it would not constitute a serious blow to the firm.

The same principle applies in trade. Frequently, finding one or two accounts more profitable and easily handled than the small ones, a firm caters to these large accounts and neglects the small ones. The time comes when the firm is quite at the mercy of a single account, and may be forced to accept disadvantageous terms, being absorbed by the larger concern or having prices cut or being thrown on a market quite without connections.

The point is to be considered in choosing a line of business. Although the competition is keen and business is subject to the rule that competition tends to equalize opportunity, such businesses as toolmaking, printing paper boxes, which may serve a great variety of clients, are particularly stable and immune from sudden fluctuations. Mail-order houses and farm-implement manufacturers, catering mainly to farmers, were hard hit by the low agricultural prices of 1920. It is significant that since that date several large mail-order concerns have begun an energetic campaign for city sales, by chain stores or city stores, by advertising, and so forth.

Insurance is one especially important application of the principle of diversification. A fire loss which would be catastrophic for a single firm, is but an incident to an insurance company carrying thousands of such risks and receiving from each a premium, whose aggregate amount more than suffices to pay all the losses likely to occur in a given clientele.

INTEGRATION OF HAZARDS

A variation of the method of diversification is that of integration. No one can predict the life of an individual, beyond saying that he is certain to die sometime. But if a thousand or many thousands of individuals are taken, it may be determined quite accurately by experience just what proportion of the group will die each year, and what is a total hazard for the individual and his family, is by this process of combination of many risks reduced to a virtual certainty.

A modification of the same method is met in the reduction of market risks by control. If many independent producers or merchants operate in a given market, no one of them can tell with certainty what the others will do, or what share of the market will be his. But if the unorganized group of suppliers is replaced by a combination or a monopoly, this risk is totally eliminated and there remains

only the hazard of changes in demand for the product as a whole. Probably one of the directions of social and economic progress during the next century will be in finding ways to secure such integration without the dangers of slackening of effort and abuse of power which so often accompany security.

INSURANCE

A device of the greatest practical value to business and society is the process of insurance, by which individual risks may be pooled and reduced to certainties by the principles named above. At the cost of a small, certain premium, the large risk is avoided, aiding in the securing of credit, protecting the individual from useless waste of energy in worry, and rehabilitating him in case of disaster.

Experience has demonstrated the need for fulfilling certain general conditions if insurance of any type is to be practicable. These are as follows:

1. *A real hazard.* There must be a real hazard, of sufficient importance to justify interest by the insured. Depreciation of machinery is a hazard, to an extent incalculable, since any machine may fail before its time. But the average factory uses enough machines, and depreciation is sufficiently regular, so that the factory can count on the retirement from service of machinery according to an approximately known schedule, and the hazard is reduced to a virtual certainty. Wearing apparel is subject to hazards of tearing and other forms of destruction, but it is not a strain on the individual to replace a torn garment and he does not usually care to insure it. It is done, however, as in the case of the English gentleman, who, crossing the Atlantic, was drenched by a dash of spray and took depositions from one or two accommodating bystanders. His silk top hat had providently been insured with Lloyd's before leaving London.

2. *Control by the insured.* A second condition of insur-

ability is that the hazard must be at least partially beyond the control of the insured. Hail or tornado insurance is a simpler risk to write than fire, because of the extent to which carelessness or deliberate intent may be the cause of fires. The subject of compulsory automobile casualty liability insurance is now receiving attention, because of the necessity of protecting the public from irresponsible drivers who could not pay for damages caused by them. One of the serious objections to such compulsory insurance would be the tendency to stimulate carelessness on the part of the driver.

Co-insurance. Where the hazard is partially within the control of the insured, a device for securing caution which is very generally applied is the principle of co-insurance. The term will be referred to again under the heading of fire insurance, where it has a special application. But in general, under co-insurance the individual bears part of the risk. Health or disability insurance is a form particularly liable to malingering, and here the provision is usually made that payments shall not be made during say the first week of disability. Similarly in automobile liability insurance it is proposed to make the individual liable in all cases, for an amount, say the first \$50, of any damage.

3. *Distribution of risk.* A third important requirement for insurance is that there shall be sufficient risks to afford an adequate distribution, and that this distribution shall be so effected that no large proportion of the risks shall be subject to a single hazard.

4. *A calculable risk.* The risk must be capable of calculation, at least approximately. Where it is not calculable, so large a premium must be charged that the insured prefers to take his own risk, and even then the insurer may lose on the transaction. Where the chances of the event's happening are equal to its not happening, a premium of 50%, plus expenses and profit, would be necessary. In the case of rain insurance, frequently taken out by large open-

air entertainments, the premium can be figured on the basis of the usual numerical proportion of rainy days, at the time of year of the event insured.

5. *Insurable interest.* There must be an insurable interest on the part of the insured. Any insurance in which there is no such interest is in the nature of a bet placed on the happening. Thus it used to be common to insure the lives of public men, to the benefit of individuals who had no connection with them. Policies nowadays usually limit the amount of the loss to be paid (where this is provable, the value of a life not being of this nature) to the interest of the insured in the loss. Thus if a building is insured for \$10,000, and is destroyed, and the insurance company can prove that it was worth a less value, the terms of the policy will require it to pay only the amount of the loss, whatever the policy face called for. It is presumed that the insured will not pay for more protection than he needs.

An insurable interest may lodge in others than the owner. Creditors or mortgagees may insure or be made the beneficiaries of an insurance policy; businesses may insure the lives of officers, executives, or employees under valuable contracts.

AGENCIES FOR INSURANCE

There are several distinct types of organizations which furnish insurance. The following are the more representative types:

1. *Self-insurance.* Where a firm owns a large number of scattered properties, none of them subject to a common catastrophe, it may be cheaper to set aside a reserve for insurance sufficient to cover the probable loss, than to pay premiums. Thus a company owning railway cars in use on many roads, or owning chain stores in many towns, would have a sufficiently wide diversification of risks to make self-insurance justifiable. In the same way many large companies give bond to state authorities, for the payment of

employee-compensation claims for industrial accidents, rather than insuring against such accidents. The test of the advisability of self-insurance is the ratio of the probable risk to the resources of the company. If this ratio were large enough so that a single loss would prove crippling, self-insurance would be inadvisable.

2. *Mutual insurance.* Mutual insurance is a pooling of risks by various individuals, by which, with sufficient numbers, the same advantages of pooled risks are secured as with the private or "old-line" companies. A majority of the life insurance in this country is written by companies mutual in form, although in practice policyholders do not exercise largely the right to participate in management, which is left to a small group much as in the old-line company. Farmers' mutuals for fire insurance are of some importance, and a frequent activity of manufacturers' associations is the writing of mutual fire, and employees' liability, insurance.

In the mutual company a loss is settled by assessment on all the members in proportion to the amount for which each is insured. Usually a fixed premium is collected in advance, from which a fund is accumulated for the payment of losses and out of which the expenses of running the organization are paid. If, however, this fund should be insufficient, members are liable to an assessment varying from one to ten times the annual premium, to meet the loss. If the fund becomes larger than is needed as a reserve, the balance is returned *pro rata* as a "dividend"—not, of course, in the nature of a profit. The premium in most mutual life companies is made high enough to provide, in any normal year, for the payment of such a dividend.

Some old-line companies offer "participating" policies, in which a dividend is returned to the policyholder in the same way, in case the losses and expenses of the company are less than an estimated quantity.

Many societies and lodges have made mutual insurance a prominent feature of their organization. Originally the scheme of insurance of these bodies was very generally

faulty, for insurance was on the assessment basis, a fixed assessment being levied as many times a year as was necessary to pay benefits. As long as all the members were young, the assessments were low, but as the membership aged, the death-rate and assessments went up, until younger members would no longer enter the society. Nearly all the fraternal orders reorganized their insurance plans some years ago, following the lines of the regular companies in establishing adequate reserves and basing premiums on age.

While there is a slight element of risk in the mutual company due to the possibility of assessments, the mutual company, when properly organized, has had a general record of being an economical form of insurance.

3. *Reciprocal insurance.* Reciprocal insurance is a variation of the mutual plan, in which, instead of placing the management in the hands of an elected board of trustees or similar group, one man is given a power of attorney by each member, authorizing him to act for him under designated restrictions. Each member joins with all the others in the group, in insuring any one member. In this respect it is similar to the Lloyd's associations, to be later described.

4. *Stock companies.* In the stock or "old-line" company the risk is undertaken for a fixed premium by an association or corporation, and the insured assumes no part of the risk insured. The principal activities of a stock company, activities which are also paralleled in some form in any insurance organization, are as follows:

(a) *Selling.* Various types of selling organizations are found. The branch-agency plan is very generally used, general agents or managers being put in charge of large territories, with district agents operating under them. Special agents and field agents are also employed who travel to the agencies to promote business with brokers, help sell difficult risks, and so on. In many of the smaller towns one agent will combine the business of local attorney or real estate man with that of representing several insurance companies.

Much business is also written by insurance brokers, who, in reality, represent the client or insured, in placing the client's business with any company the agent or client think fit. The fees of the broker are paid by the insurance company, however.

(b) An actuarial department, responsible for the computation of insurance rates, the figuring of the legal reserves (explained in the following chapter), and the large amount of statistical work involved in insurance.

(c) An investment department, which passes on mortgages, real estate loans, bonds, and other securities purchased by the company.

(d) A policy-writing department.

(e) Legal, claims, auditing, bookkeeping, inspection, supply, filing, departments whose functions approximate those of the ordinary corporation.

(f) A life insurance business would also have a medical department, which would establish the standards for medical examination and approve applications, and a department handling policy loans, refunds in case of lapses of policy, and service to policyholders.

(g) The executive organization would include the usual board of directors with chairman of the board, president, vice-presidents, secretary, and treasurer. The actuary is often an elected executive officer. There would also be committees made up of directors and officials, for such purposes as the review of claims and applications, for agency and for clerical methods, for review of investments, and similar purposes.

5. *Lloyd's associations.* The original Lloyd's association was a group which used to congregate at an inn of that name in London, and which is still the largest association. In such an association, the application for any kind of insurance is offered to the members, who decide for each contract offered the extent to which they will participate in assuming liability. The association does not write insur-

ance, but provides, for its members, regulations, uniform policy forms, and a place of doing business, being in this respect somewhat analogous to a stock exchange. Lloyd's will write almost any kind of insurance, and does a large business in many countries. Lloyd's associations have been started in this and other countries, but have not attained the degree of success of the original company.

6. *Government insurance.* From some points of view, government insurance has much to commend it. It is, however, subject to the dangers inherent in the political control and administration of large funds. The Government of the United States wrote a great volume of life insurance on soldiers in the World War. The theory of the policies was that the soldier paid the same premium as he would have paid under peace conditions (the government, however, paying the expenses of administration) and the government assumed the war risk of casualty as a substitute for the pensions of previous wars.

European governments have embarked on a number of plans of an insurance nature, as social measures. Unemployment insurance, or the "dole," has been in use in England since the war. A fund is created by equal payments from employers and employees, with a contribution by the government. From this fund, administered by the government, payments are made on a weekly basis to persons out of work.

Some of the states in this country provide for state administration of the funds for insuring employers under the Workmen's Compensation Act, also of state automobile insurance funds. Other state insurance plans proposed include old age and maternity pensions, widow's pensions, and so forth.

7. *Underwriters' associations.* The trade association is very usefully employed in the insurance field. Various associations—national, such as the National Board of Fire Underwriters, and local, such as are found in the larger cities—do much to standardize the forms of policies, secure

uniform practice, fight incendiarism, and represent insurance interests and points of view regarding proposed legislation, in the case of the national groups. The local groups commonly support a joint inspection and rating bureau, which inspects and rates a hazard for the benefit of all insurers, thus securing uniformity of rates and a more thorough classification of the risk than would be practicable to the individual company. The association also serves to promote acquaintance and good-will among insurance men; it has its professional meetings at which papers are presented and discussions take place on the selling, actuarial, and other phases of insurance. Both the national association and the local association assist in the gathering and tabulation of statistics and the refinement of rating experience.

The local association has in many cases carefully prepared, large-scale maps of the city or locality, on which each building is shown, with a code designation of its classification from the standpoint of risk.

XIX

INSURANCE

(Continued)

Life insurance—computing the premium. Reserves. Loan and surrender values. Group insurance. Selection of risks. Fire insurance. Computation of premium. Co-insurance. Re-insurance. Settlement of losses. Other types of insurance. Credit insurance. Title insurance. Employers' liability insurance. Unemployment insurance. Bonding. Preventive work by insurance companies.

WE turn from a survey of the agencies by which insurance may be offered, to the objects which may be insured and types of insurance.

LIFE INSURANCE—COMPUTING THE PREMIUM

The computation of the premium on any type of insurance policy is based on the law of probabilities, which is, that the probability of an event's happening is equal to a fraction of which the numerator is the number of favorable ways and the denominator is the whole number of ways favorable and unfavorable. For example, drawing from a pack of cards, the chances of drawing a particular card are $1/52$, since there is 1 chance of drawing it and 51 of not doing so. But the chance of drawing an ace, suit not specified, are $4/52$, since there are now 4 chances of a favorable occurrence out of the 52 possible occurrences.

The probabilities of the death of any individual are derived from the American Experience Table of Mortality, which is in general use by life insurance companies, although it is recognized that the values give results somewhat higher than the actual losses. Typical figures extracted from this table are shown in Table 7 to illustrate the problem of rate-making.

TABLE 7
TYPICAL DEATH-RATE FIGURES

At Age	Number Surviving	Deaths
10	100,000	749
11	99,251	746
20	92,637	723
30	85,441	720
31	84,721	721
40	78,106	765
50	69,804	962
60	57,917	1,546
70	38,569	2,391
80	14,474	2,091
90	847	385
95	3	3

For a person aged 30, the chances of dying within one year would be $720/85,441$, or .00842, and a net premium of \$8.42 would cover this risk for a \$1,000 policy for that year only. Similarly, the net premium for a person of 31 would be $721/84,721$, or \$8.51, if the policy were an annually renewable one, the premium paid at the end of the year, and the loss, if any, at the same time.

If the premium on a life policy were paid in one lump sum, as it sometimes is, it would be necessary to allow compound interest at 3% or $3\frac{1}{2}\%$, on each of these sums for the period it was in the company's hands, and the actual net premium would be the sum of present values (obtainable from annuity tables) of the successive annual premiums. To this amount would be added a "loading" or additional sum sufficient to cover the cost of selling the policy and administering the company. To divide this sum into the equal annual payments of the uniform rate annual-premium plan, would involve only an additional interest computation, since the payment on an annual basis gets progressively larger and on an equal payment basis enough more is paid as advance premium in the early years to compensate for the deficiency in the later years. The actual premium in an old-line company, for an "ordinary life"

policy for \$1,000 at age of 30, was, on a single-payment plan, \$432.50, and on an annual-payment plan, \$23.50.

RESERVES

Taking the paid-up policy of \$432.50 as an illustration, it is seen that it is in the nature of a trust fund, representing advance payments. Each year the company is entitled to deduct the \$8.42, \$8.51, and so forth, plus loading, earned as an annual premium by the carrying of the insurance for that year. The company is required, by law, to carry a reserve equivalent to the unexpended balance of such prepaid policies. A portion of the level annual life premium must also go into this reserve, which is required to be maintained by the company for the security of the policyholder. Because of the very great amount of clerical detail which would be involved in figuring the reserve at all times due on each policy, approximate methods, based on total sales of policies per month, are employed in actually figuring the reserve. These reserves, which total very large sums in many cases, are invested by the company in approved types of securities under regulations having a similarity to those governing savings banks. The insurance company thus performs a banking function to its clients and earns profits as a bank would, by investing money at higher rates of interest than it pays for the money. As a matter of fact, the big insurance companies are among the largest sources of capital for such types of investments as mortgages and bonds.

LOAN AND SURRENDER VALUES

That portion of the policy which is unexpended for the annual premium is virtually the property of the policyholder and, in case he abandons his policy, most companies provide for its return, minus certain additional loadings designed to cover that portion of the administrative expense as spread over the policy, for which the company is not yet re-

imbursed. Or a loan may be made, with this reserve value as security. Or if the insured elects, the reserve may be allowed to stand as prepaid premium, for a policy of the same face for a certain period, or for a smaller paid-up policy.

GROUP INSURANCE

A new type of policy which has been considerably used is one in which, for a premium paid by an employer, the company agrees to pay a fixed amount, say \$1,000, or an amount depending on length of service, and so forth, on the death of any employee. It is virtually term insurance, the term being the average period of employment, and is computed on the average age of a group of employees. It relieves the employer of any feeling of responsibility for the pensioning of widows or dependents of old employees, and is used as an inducement to stimulate good-will of employees.

SELECTION OF RISKS

As contrasted with fire insurance, it has been the policy in life insurance to write policies only on individuals who, by virtue of health, occupation, habits, and other factors affecting the expectation of life, are considered good risks, and a very complete medical examination and history are made part of the application and contract of insurance. Some companies have experimented in writing sub-standard risks, increasing the premium on some such basis as taking a higher age as a premium basis.

Special risks, such as suicide during the first year, service in war and in hazardous occupations, are generally excluded in the policy.

FIRE INSURANCE

What has been said as to computation of premium and reserves, applies also to fire insurance. There must be an insurable interest, and the company does not assume liabil-

ity for more than the actual amount of the loss, the standard policy containing a clause giving the company the option of replacing the destroyed structure or article with others of like kind and value, taking possession of the damaged property, if desired.

The standard policy also excepts from its coverage, "accounts, bills, currency, deeds, evidences of debt, money, notes, or securities," as well as other special classes of property. It provides that where there is more than one policy in force, the loss shall be divided *pro rata* among the various policies, the total not exceeding the amount of the loss. Consent is required to place other policies. Certain dangerous practices, such as the storage of gunpowder or inflammable oils, are prohibited except by specially attached riders giving permission. Either party may cancel the policy at will, unearned premium being returned. The company is relieved of liability during the continuance of such hazardous conditions as repairs, extended vacancy, and so on. Changes increasing the risk are forbidden. Various other provisions cover the method of ascertaining and paying the loss, of protecting the property from further damage after a fire, of notification of loss, and so forth.

COMPUTATION OF PREMIUM

The writing of fire insurance differs from life insurance in that a great variety of risks are taken. The usual method of computation of the premium is therefore some system of classification or separate consideration of the elements of risk. Various systems are in use. One system is that of classification of risks, such as dwellings, frame, brick, and so on, churches, stores, factory buildings of various types. A more usual system for industrial and business risks is to take a base or minimum rate and apply correction factors for the various elements of risk. Thus for a particular town with a given fire protection and fire experience, the base rate for a brick factory building might be 50 cents

per \$100. For open floor areas greater than 1,000 square feet a charge of 5 cents per \$100 might be made. For walls of insufficient thickness, for thin flooring, for openings from one floor to another, and so forth, additional charges would be made. An occupancy charge would similarly be computed, corresponding to the hazard of the particular building with an addition for waste or shavings scattered on floor, for open-flame furnaces, and so on, with credits for approved fire extinguishers. In this way a rate is made up which corresponds with the experience of probability of fires, with buildings having similar features. Accurate rate-making requires careful statistical analysis of a great variety of risks, although the application of the rate to a given structure is more or less standardized. This system of rating the elements of the risk enables the proprietor to determine points at which, by eliminating hazards, he can reduce his premium.

CO-INSURANCE

The fire insurance policy usually contains a provision to the effect that the company shall not, with all other insuring companies, be liable for a greater proportion of any loss than the amount insured bears to a percentage, such as 80%, of the actual cash value of the property at the time of the loss.

Suppose a building is worth \$10,000 and is insured under an 80% co-insurance policy for \$5,000. Suppose a fire damage of \$4,000. The policy calls for 80% insurance, or \$8,000. The loss which the company will assume is then $5,000/8,000 = .625$, $\times \$4,000 = \$2,500$. The object of this clause is to prevent the insured from taking out a small policy, which would throw the full load of partial losses on the company.

RE-INSURANCE

A large fire, such as the fires caused by the San Francisco, Japanese, or Santa Barbara earthquake, the Baltimore con-

flagration, or the earlier great fire in Chicago, may entail disastrous losses for a company which happens to have written heavily in the district. Policies on single large establishments often constitute uncomfortably large risks. In order to protect itself against such losses, or in the case of a small insurance company to protect itself against any loss greater than its capacity to pay, it is a very general practice to re-insure a portion of the risk. Thus a company may carry with another company or in Lloyd's a policy covering that portion of a specific loss, or of any loss, over \$100,000 or other stated amount.

SETTLEMENT OF LOSSES

The terms of the policy require prompt notification of the insurance company in the event of loss, and the protection, preservation, separation of damaged and undamaged property, and salvage of the property. Loss is ascertained by an inventory, which may be submitted by the insured to the company, or may be taken jointly. The insured is also expected, within 60 days, to submit a sworn proof of loss, stating the time and origin of the fire, the value of the property and amount of the loss, the ownership interests of the insured, and of all others, in the property, and the use of the property at the time of the fire. The company's representative usually inspects the property as soon as practicable after the submission of the statement, and examines the inventory and statement. The insurance may be paid without question; the company representative may offer a lower settlement figure, dickering until an agreement is reached, or the company may make its own inventory or, in suspicious circumstances, refuse payment until an investigation is made. Incendiarism is a crime punishable by imprisonment, but one difficult to establish even when the smell of kerosene is in the air, and the companies have constantly to fight the unscrupulous people who over-insure and burn out, or who burn out to dispose of unsalable

merchandise or a hopeless business. The writer heard of one case in which a business was for some time offered for sale for \$2,000 without securing a buyer. Shortly afterward there was a fire, and we heard that \$4,000 insurance had been collected. Involved in extricating this rascal were not only the insurance companies, but the other tenants whose businesses were interrupted at serious loss, and the firemen, one of whom fell and injured his back for life. In another fire, almost certainly incendiary, eleven firemen lost their lives and several small businesses were ruined to extricate a nearly bankrupt business.

In settlement after the fire, a good inventory is of the greatest importance, as insurance can be collected only for those articles whose existence and value can be satisfactorily established. In the case of metal goods and machinery there is usually enough left for evidence, but a perpetual inventory and job-cost sheets which show the present value of work in process save a great deal of trouble and prevent overlooking many things otherwise forgotten or lost in making the settlement. Once a settlement is arrived at, the check usually comes promptly, and most companies will be found very fair in attempting to establish the actual loss and making a settlement with the insured.

OTHER TYPES OF INSURANCE

Use and occupancy insurance is designed to cover the cost of interruption of business by fire or similar causes. *Profit* insurance covers the loss of profits expected from the sale of goods and prevented by their destruction by fire. *Marine* insurance is similar in principle to fire insurance but is a very specialized form, due to the special nature of the hazards involved. *Automobile* insurance may be had to cover liability for damages by injury to persons or to property, damages to the car of the insured by collision or by fire, or loss by theft. *Tornado, crop, plate glass, boiler, burglary*, and *rain* insurance are other types.

CREDIT INSURANCE

Credit insurance is an insurance against losses by bad debts. It usually is co-insurance, the firm's normal loss experience being determined and the insurance covering only losses above this limit. It applies only to losses on customers rated by the commercial agencies. In a majority of cases a firm's credit risks should be sufficiently diversified so that self-insurance should be practicable.

TITLE INSURANCE

According to present law, it is possible for flaws in the title to real estate to appear many years after the property is transferred. Occasional cases have come up, for example, in which some one would unearth a long-forgotten will and lay, and establish, claim to an immensely valuable piece of New York City real estate. To protect holders it is customary to have a search made of title, going back over all transfers to the original grant of the land by the government or purchase from the Indians. This search becomes very expensive with old properties which have passed through many hands. As a consequence, title companies have been formed in some of the larger cities, which combine centralized records and searches of all titles to property, with an assumption of the remote risk of an undiscovered flaw in the title. Certain risks such as the presentation of valid unrecorded documents affecting the title, and any specific and described flaws discovered in the search, are usually excluded from the guaranty. The policy cannot be transferred and, in case of transfer of the property, a new guaranty must be purchased.

The Torrens system of recording property, which is being used in some cases as a substitute for this system, provides by act of legislature that any person, on payment of a small fee, may register his property, being given absolute possession thereof after publication for a certain period to

give opportunity for objections to such title being given. The fees are collected into a fund for the reimbursement of any claimant who might subsequently show valid claim to a registered property.

EMPLOYERS' LIABILITY INSURANCE

Employers' liability insurance has been mentioned. Most states have laws replacing the old common-law rights of the employee to damages for injuries sustained in the course of employment, and substituting a fixed scale of damages for various injuries, as well as placing on the employer the burden of proof of "contributory negligence" on the part of the employee or his fellow workmen. Such laws also require, in most states, the employer to give bond for performance should an accident happen and an award of damages be made, or failing to do so, to carry insurance with companies prepared to give such bond. The cost of such insurance is a certain percentage of the pay-roll, depending on the rating of the plant as to safety.

UNEMPLOYMENT INSURANCE

The Chicago Industrial Federation of Clothing Manufacturers, in October, 1923, concluded an agreement with the Amalgamated Clothing Workers of America (the clothing makers' union) by which each factory in the group established a fund, to which employees contributed $1\frac{1}{2}\%$ of their wages and the employer a like amount, and from which all regular employees of a year's standing or more were paid 40% of their regular wage, not to exceed \$20 per week or \$100, or five weekly payments, in any one year, during periods of unemployment, after a waiting period of two weeks. The clothing industry is one subject to recurring seasonal irregularities and this experiment was made in an attempt to relieve the worker of a part of the burden of unemployment. Suitable provisions were made for the adminis-

tration of the fund by a board of trustees, for the regulation of the conditions of the award of benefits, and for the disposal of the fund in event of discontinuance of the plan or retirement from business of the manufacturer.

BONDING

There are many cases where an individual or corporation, acting as trustee or in some other fiduciary capacity such as a guardian, is required to give bond for the faithful performance of an undertaking. Formerly the custom was to ask some friend who possessed enough property to satisfy the court or the other party, to go as surety for such performance. Much of the business of acting as surety, except in the case of criminal bonds, is now done by corporations or bonding companies who, after making a very careful investigation of the character of the obliger, or bonded person, agree to go his bond for a consideration. Bonding is thus not insurance, since it is assumed that the investigation of the character and responsibility of the obliger minimizes risk and the premium is mainly a payment for the use of the credit of the surety. The obliger is also always liable to the surety, for any payment made by the surety because of the obliger's default, but, of course, this liability is not worth much in the case of a criminal default and flight from justice.

There is, however, evidently an insurance element because of the incalculability of the default of any individual, and the premium of the bond must include not only compensation for the use of credit and for the expenses of the bonding company, but an insurance charge based on the default experience in a particular type of suretyship.

Bonds are required in many situations, of which the following are the commonest:

1. The fidelity bond, required, for example, of a watchman, bank employee, storekeeper, and so forth, for the faithful performance and honesty of the employee;

2. The fiduciary bond, required of trustees, guardians, and administrators for the administration according to law or the conditions of the trust, of trust funds, or the property of minors or others, and the due accounting for such funds. Of this nature also are the bonds required of public officials, treasurers, collectors, and so forth;

3. Court bonds, to cover liability of a plaintiff for damages in wrongfully attaching property for debt, or liability to pay judgments, and so forth;

4. Depository and warehouse bonds, to secure the repayment or return of money or articles of value entrusted to a bank or warehouse;

5. Contract bonds, required frequently in construction work, where there is considerable risk and where contractors often abandon an uncompleted contract. Such bonds indemnify the party for whom the contract is being performed, for losses caused by non-completion;

6. Criminal bail, required as security for the production of persons on trial, when required by the court;

7. Bonds are required for various other purposes, such as to indemnify a bank against loss in cashing a duplicate certified check of which the original is destroyed, of individuals as a surety that they will keep the peace or comply with court injunctions, immigrant bonds, franchise bonds, marine and customs bonds, and license bonds, which protect the state and the public against damage by persons in licensed occupations, such as auctioneers, plumbers, warehousemen, and others.

PREVENTIVE WORK BY INSURANCE COMPANIES

A very substantial amount of work has been done by insurance companies, by inspection and education, toward reduction of hazards in the respective fields covered. Workmen's compensation insurance companies inspect premises and recommend elimination of hazards discovered, as well as distributing safety posters, and so forth. A national advertising campaign of education in good health has been carried on for some time by one of the large life insurance companies. In several types of insurance, such as workmen's compensation liability insurance, a firm is given a

lower rate on the basis of a favorable experience rating, thus definitely encouraging it to improve its methods in this regard. Much constructive work has thus been done in various lines of insurance.

XX

FORECASTING BUSINESS CONDITIONS

Rhythm, or periodicity, universal. The economic cycle. The period of depression. Recovery. Expansion. Liquidation. Causes underlying the cycle. Non-periodic factors. The production of gold. Methods of forecasting. Index numbers. Indexes of business conditions: agricultural conditions; shares and stocks; money; production; market conditions; business profits. Order of events in the cycle. Business barometers. The use of forecasts in business.

A phenomenon which is so universal that it may be called a basic law of nature is the tendency for action to occur in rhythms or waves. A river flowing through a flat, low plain does not cut the straight channel which would be the shortest and most direct outlet for the energy of its flow, but winds into a series of "oxbow" curves and loops which gradually become so extreme as to meet, and cut off islands. An individual, also, does not move from day to day in an even emotional tenor, but today is elated, tomorrow perhaps suffering a reaction of depression. One of the underlying causes of all such rhythms is inertia. The stream, striking the slightest obstacle, is deflected against the opposite bank, from which it is again deflected in ever-sharpening and deepening curves. There is a similar emotional inertia, a release of optimism that carries one too far, that overexpends nervous forces, leaving one a prey to depression on slight cause or no cause at all.

THE ECONOMIC CYCLE

Economic conditions being subject to a similar rhythm, there results a "business cycle," a tendency for production, instead of remaining steadily adjusted to demand, to swing from one extreme of overconfidence and overproduction, to

a reaction of depression and inaction. Various explanations have been advanced for this variation, and, as a matter of fact, it is probably due to a combination of causes rather than to any single cause. Back of specific causes we can, however, as in the stream or the pendulum, trace an inertia as responsible for the oscillation.

The years 1814, 1818, 1825, 1829, 1837, 1848, 1857, 1866, 1873, 1884, 1893, 1903, 1907, 1914, 1920 have been bad years in American business, those indicated in italic being the years of serious crisis or depression. There is a sort of a rough periodicity in this succession of depressions, which, however, is often interrupted by outside non-periodic events. In a study made by W. L. Crum¹ the length of the cycle in the case of interest rates on commercial paper was found to approximate 40 months, with irregularities, however, from time to time. The actual cycle, while varying slightly in duration, has a definite and well-marked history.²

THE PERIOD OF DEPRESSION

Taking the cycle at its low point as a beginning, the period of depression is marked by generally slow business, low prices, and small profits. There is much unemployment, there is a tendency for wages to sag slowly to lower levels, failures in business are numerous, and interest rates are low. Consumption of goods tends to fall off much more in some lines than in others. Necessities, such as food and articles of small current consumption, are affected but little. Luxuries drop sharply and the sale of articles of comparatively long life falls off because people get along with the old furniture, wear the old suit a little longer, and postpone buying the new car until they have more money to spend.

The banks are usually in a strong position as to reserves during this period, since there is little demand for money

¹Crum, W. L., "Cycles of Rates on Commercial Paper," *Harvard Review of Economic Statistics* January, 1923.

²For further discussion, see Shaw, A. W., "The Underlying Trend," *System*, February-June, 1925.

and the banks are cautious in lending. This period is apt to be characterized by a certain amount of undertaking of large projects and public works, for it is a period of low interest rates, low wages and material prices, and those with money to invest are apt to use this opportunity to carry out long-planned projects at bargain prices. On the other hand, concerns with less funds tend to cut down on replacements and capital expenditures.

Retail buying during this period is from hand to mouth; prices remain low and tend to drop lower.

RECOVERY

Often quite imperceptibly an improvement appears, now in a few lines, now in more and more. Stocks of goods have all been exhausted to the point where they are inadequate and shortages begin to develop. The mills are not yet operating at full capacity and for the moment this shortage leads to no bidding up of price, for the producer puts more furnaces or machines into operation and seeks volume to carry the overhead which has been devouring his profits. Unemployment decreases and retail stores begin to feel the effect in increased buying power. Bank loans increase, although there is still enough idle money to keep interest rates low. Here and there wages begin to rise. Here and there a business man's orders begin to run ahead of productive capacity, and he decides that it is safe to raise prices a little.

EXPANSION

The immediate effect of the increases in price is to decrease buying. But as demand continues steady as a whole, more and more firms decide that the time has come to increase profits, or are forced to higher prices by increases in wages and in the costs of their materials. Gradually the impression gets abroad that prices are going higher. The grocer says, "Better order a hundred pounds of sugar,

madam. My jobber tells me that it may go up again any day." Speculators begin to buy and hold or hoard for a rising market. A natural volume of consumption, already at its maximum, is augmented by extensive taking out of the market of goods being held for a rise. Production, which at first raised but a hesitant note here and there, is now swelling into a full-throated symphony of profit, with here and there a discord as strings are stretched too tight.

There is a shortage of labor, a shortage of materials. Manufacturers begin to bid up the price of labor, and the workman, finding himself sure of a job, yields to the natural impulse to take things a little easier. Absenteeism, insubordination, strikes, and careless workmanship increase rapidly. They tell of an employment manager, during the height of the boom of 1919, who was in the habit of accosting every man he met and asking him if he wanted a job. One day he met one of the workmen from his own plant but did not recognize him. "Got a job? How much are you getting?" "Seventy cents." "Come around to the office at Sixtieth Street tomorrow and I'll give you seventy-five."

High prices and volume of demand bring low-grade mines on the market. Copper ore which cannot be hauled to the smelter at 15 cents, shows a profit at 25. Everywhere, obsolete machinery, damaged materials, cripples and incompetents are being pressed into service. Transportation facilities are overtaxed; there may be an embargo such as the freight embargoes of 1919. Interest rates begin to rise. Building slows down, for building is a long-time investment and investors become cautious about investing at the high prices and with inefficient and troublesome labor. Factory construction, however, tends to hold up almost till the last.

Gradually a new phenomenon appears as merchants find that they cannot get early deliveries. They place perhaps six orders for the same article with six firms, intending to cancel five as soon as the first is received.

LIQUIDATION

By this time the inertia of the movement has carried production out of all relation to demand. Hoarding stops because of the natural limits of capacity to store and finance. A concern here and there finds its inventory over-extended, and the bank asks it to reduce its loans. Production has been becoming more inefficient and costly and people on fixed incomes begin to feel the pinch of higher costs, and curtail purchases. Contracts are canceled here and there, and, suddenly, the pendulum which has been swinging higher and higher comes to a rest, and begins to recede. There is a rush to unload on the part of speculators big and little, a rush of cancelations passed down the line. Interest rates suddenly rise as banks begin to call in loans, and there is a desperate scramble for money.

Depending on circumstances, the liquidation may at this time take on the characteristics of a panic, or it may be possible to hold it to a more orderly recession. In 1907 the panic was precipitated by a failure and an actual shortage of currency (the Federal Reserve System not then being in existence). Credit overnight was violently deflated, there was a scramble for money which was suddenly taken out of circulation by those who feared its lack for themselves. Emergency currency, such as clearing-house certificates, was put into circulation and there were many failures.

If the deflation can be kept under control, the banks continue to support loans, giving the merchant a chance to liquidate with a minimum of loss. The weakest concerns fail, the weaker ones suffer drastic "reorganizations," and the strong concerns, while suffering actual immediate losses, are improving their position in their markets.

All through this period there is a desperate effort to hold up prices, which fails in some instances but is successful in many. The decrease in volume of demand is felt in output rather than price, and the hoarded and excess stocks hang like a cloud over production until they are finally used up.

Wages remain high but unemployment is sharply felt. Labor, fighting on instinct to hold its gains, is troublesome, and strikes are frequent. Manufacturers, faced with the ever-present problem of burden, are the first to make the price concessions that everybody is trying to avoid. For a time the merchant reaps the advantage of these cuts while maintaining the retail price, so that while his volume is greatly reduced his unit profit is larger. But gradually competition forces reductions here also.

For a time business hangs on a dead center. Everybody holds off buying as long as possible in the expectation of still further price cuts. Failures continue heavy, as firms which weathered the first blast reach the end of their resources. A realization of a real scarcity of jobs makes workmen who have them anxious to retain them, and labor efficiency increases and labor troubles almost disappear. Extravagance is disappearing, and the initial period of recovery and slow gain is again in sight.

CAUSES UNDERLYING THE CYCLE

Various explanations have been given for the periodicity and cyclic nature of this phenomenon. One of these has already been suggested, the tendency for a swing from underproduction to overproduction, owing its origin partly to the influence of price and in part to the fact that the plants, equipment, and capital assets, which are directed toward supplying a shortage, are too great in number, and maintain an oversupply of goods until these productive assets have been used up. Were oversupply and depression of prices the sole cause of deflation, price reductions would precede, instead of following, the deflation. But speculation, the anticipation by business men of the approaching condition of oversupply, operates to discount price depression and profit reduction. The influence of our credit system is also felt. During prosperous times the banks tend to overextend credit and a point is reached at which further loans cannot

be made, suddenly interrupting the process of pyramiding prices and production, which has been developing.

The subject of the cause of the cycle is still not a fully settled one. There is an interplay of many forces, partially those of investment inertia, partially the forces of group suggestion and hysteria, partially forces extraneous and accidental.

NON-PERIODIC FACTORS

Other forces enter to complicate the pattern. A good crop year or the discovery of gold may shift the period or break the rhythm. The United States in 1914 was on the verge of a depression which began to disappear under the stimulus of war orders from Europe. Good or bad legislation, such as the refusal of a charter to the First Bank of the United States in 1811, the coinage act of 1834, which disturbed the ratio between gold and silver and induced the export of gold, the bimetallic policy of the United States in 1893, and the Federal Reserve Act in 1914, may accentuate or reduce the normal tendency.

THE PRODUCTION OF GOLD

A long-term swing has been pointed out, culminating in each of the major war periods. The period of 1800-1814 was one of very general martial activity, the Napoleonic Wars and our own War of 1812. It was marked by feverish price increases and was followed by an equally sharp drop, then by a long gradual sag of prices, with an upward tendency commencing about 1835 and accelerating until the early 60's, which were marked by the Civil War, and by the Franco-Prussian, Crimean, and other European wars. Following this period was again the sharp, then decreasing rate of price fall, with an upward swing manifesting itself in the middle 90's and culminating in the World War of 1914-1918.

Edward Beach Howell points out, in a thoughtful arti-

cle,¹ the possible connection of these great war periods with the sudden increases in the world's production of gold, which he shows have coincided through a long period with the periods of special military activities. His explanation is that the sudden increases in gold supply were accompanied by a cheapening of gold, or its equivalent, a rise of prices. This, in turn, stimulated trade, excited commercial rivalry, and caused wars.

Professor Irving Fisher some years ago proposed a plan in which the standard of value would be composite, consisting of measured quantities of a variety of articles of common use, such as lumber, wheat, meat, metals, and so on. Paper money would still be used as the medium of exchange and would still be redeemable in gold, but the weight of gold paid by the government for a dollar of certificate would vary with the price of this composite unit. In other words, if the price of the commodities goes up, it is an indication that the price of gold has gone down, and more than 25.8 grains would be given for a dollar. While it is difficult to change established institutions, the world may some time be forced to adopt a more stable unit of value than gold.

Any particular economic situation is affected not alone by these various general periodic and non-periodic factors, but it is affected by many local influences. It is curiously interesting to watch the short-time fluctuations of trade—this month, retailers all report good business, next month there is a pause, the next month all is activity again. The year 1923 was a record business year, almost as great money volumes of business being done as in 1919. But in December of that year or January, 1924, sales stopped sharply, and the dullness continued through 1924.

With all these various factors affecting the cycle, influencing its severity and affecting its length, prediction of the cycle bears some slight analogy to weather prediction. We know some of the dominant controlling factors, we can

¹Howell, E. B., "The Economic Cause of War," *Atlantic Magazine*, July, 1925.

trace many of the secondary influences in a particular case and we can predict the order but not the exact time of the events in the cycle.

We may also establish a connection between those factors which come earlier in the cycle and those which come later, thus making possible a partial short-time prediction.

METHODS OF FORECASTING

There are two methods of analyzing the probabilities in any particular stage of the business cycle. The first of these is an analysis of the situation from the standpoint of the economic factors involved. This method contemplates the identification of such factors in the situation as an overproduction of particular commodities, or the influence of immigration restriction on labor prices, costs, and foreign trade, the effect of increased taxes, or of such other factors as may be recognized as acting in the given case. The influence of these factors is then evaluated and a prediction is made. Like the weather prediction, this may indicate conditions which make a thunderstorm probable, but we cannot be sure of having included all factors, and the probability may not be realized.

The other method employs the statistical method of correlation. If one or several observable movements, such as price changes, can be proved by statistical comparison to vary with the changes of the cycle in a known manner, then, without needing to establish precisely the relationship between cause and effect we may say that as long as the situation is not changed by new elements, such movements or indicators may be taken as a fairly reliable index of the economic situation at the time. This is the method used in preparing the Harvard index, later described. Experience has shown that the prices of industrial stocks, for example, change some months in advance of the wholesale prices of commodities, and these, in turn, usually in advance of retail commodity prices.

INDEX NUMBERS

One of the most reliable indicators of the tendency of the cycle is the price of the various commodities. A single commodity may be influenced by so many special factors that its price is not as reliable an index as a composite of several prices. There are several such series of price index numbers, of which the most important are the United States Department of Labor's index of wholesale prices and Bradstreet's index of wholesale prices.

Bradstreet's index is a composite figure obtained by adding together the wholesale prices of 96 staple commodities, reduced to a per pound basis, divided into 13 groups, a separate index of each group, and for the total, being published. The Department of Labor's index of wholesale prices is based on the prices of somewhat over 400 commodities each weighted in proportion to its commercial importance, and is stated in terms of the percentage of the price of 1913. It is found, however, that the unweighted index, such as Bradstreet's, serves nearly as well as an indicator.

INDEXES OF BUSINESS CONDITION

The following list embraces some of the most important of the business conditions commonly used as indicators of the general business trend:

Agricultural conditions. Agricultural conditions do not in general correspond to the business cycle, because they are affected by controlling factors which modify the cyclic rhythm and introduce other rhythms. The length of time required to mature live stock, orchards, and other crops, the weather, crop shortages, and other factors, have a predominant weight. For this reason agricultural conditions are useful more as indicating one of the factors affecting prosperity, than as indicators of the cyclic trend. *Agricultural production and prices* of the principal crops—wheat, corn, cotton, live stock—are the statistics of principal

importance. Government reports are issued eight times a year, giving the estimated condition of the wheat, cotton, and other crops, and prices can be obtained from market reports of prices paid in the various markets and produce exchange.

Shares and stocks. The *prices of shares and stocks* give one of the earliest indications of business changes, since they reflect a combination of the opinion of experienced investors all over the world, and of tendencies known or felt by those actively in business. Such stocks may be classified as industrial, mercantile, rails, and public utilities. Industrial stocks, such as those of the United States Steel Corporation, the General Electric Company, the various automobile companies, and many other industries, are the most sensitive to coming adjustments in the business situation, a turn in the market usually preceding by about six months a change in the business situation. Mail-order stocks reflect agricultural conditions to a degree. Rail and utility stocks are usually slower to respond.

Money. The interest rate, volume and disposition of currency are matters of very great interest. *Bank clearings* follow rather than precede business movements. *Bank statements*, also published by the Federal Reserve banks and by individual banks, may be analyzed to show very clearly the amount of loans outstanding and the condition as to contracted, normal, or inflated credit. The *volume of Federal Reserve notes* and other note currency in circulation is another indicator of the same condition. The *reserve ratio* of the Federal Reserve banks also is of interest. *Gold movements* between nations are also significant in indicating volume of trade and adjustments of international finance. *Interest rates* are very significant, as an increasing rate indicates business activity, with high rates indicating a probable inflation. There are several rates of interest, on various types of loan, as follows: (1) The call loan rate, which is the rate paid on the New York Stock Exchange on money

borrowed and subject to payment on demand; call loans tend to indicate speculative conditions rather than general business conditions; (2) the Federal Reserve rediscount rate, applying to the rediscount of commercial paper presented by banks; (3) the rate on current 30-, 60-, and 90-day loans by the mercantile banks; (4) the rate on prime short-term notes or commercial paper, offered, as before described, on the open market by industrials; (5) the interest rate on bonds of the first grade.

Production. Of the various statistics of production which are available as indexes of the trend of business, those relating to iron and steel are of special interest because of the extent to which this product enters into other products, and to which the demand for steel is consequently a reflection of activities in many other lines. *Pig-iron production* is the basic process through which all steel must originally pass, hence the figures of monthly pig-iron production, published by the iron trade magazines, are watched with special interest. The *volume of unfilled orders* of the United States Steel Corporation is published quarterly and affords a good indication of the trade situation. The *production of coal*, the volume of *imports*, the amount of *new building*, by classes (residential, business, industrial), are also available and of interest. Labor conditions also afford an excellent index of the production situation. Many of the various states and the United States Department of Labor regularly publish statistics showing the *amount of unemployment*, a reliable index of activity. The Department of Labor of the state of Illinois publishes a figure of interest, compiled by its Free Employment Bureau, and showing the ratio of applications for jobs, to applications for employees. *Wage rates* are published by the United States Department of Labor. Wage rates tend to lag behind the general cyclic trend. *Number of strikes* is also of some interest from a barometric standpoint.

Market conditions. Among the various indicators of

market conditions perhaps the most important is *commodity prices*, which quickly reflect changes. Wholesale prices are more sensitive to changes than retail prices. The United States Department of Labor index of wholesale prices and the Bradstreet index have been referred to.

The volume of transactions is indicated by *sales of mail order* and of *chain stores*. Freight movements are also significant, and *idle cars*, *car loadings*, and *gross earnings of railways* are available as indicators. The *volumes of exports and imports* are also of interest.

Business profits. *Earnings of corporations* are available, but reflect conditions some months past. *Business failures*, while including only bankruptcies and insolvencies, and not those businesses which have been found unprofitable and wound up without loss to creditors, are a very satisfactory indicator of business conditions, tending to give an early indication of favorable or unfavorable conditions.

While not directly an indicator of business profits, *savings bank deposits*, amount of *new insurance written*, and amount and number of *lapsed policies* are of significance in indicating the general prosperity.

ORDER OF EVENTS IN THE CYCLE

The factors just named may be classified according to the sequence in which they take place, especial significance attaching to those indexes which come before the general change in the situation. Among those items which tend to precede the general body of symptoms may be named the prices of industrial shares and stocks, and wholesale prices. Among those factors tending to accompany the general change are the production of pig iron and volume of unfilled steel orders, the amount of unemployment, bank clearings, retail sales, and business failures. Among those factors which come late in the cycle or follow the general movement are changes in wage rates, retail prices, interest rates, bank reserves, and corporation profits and dividends.

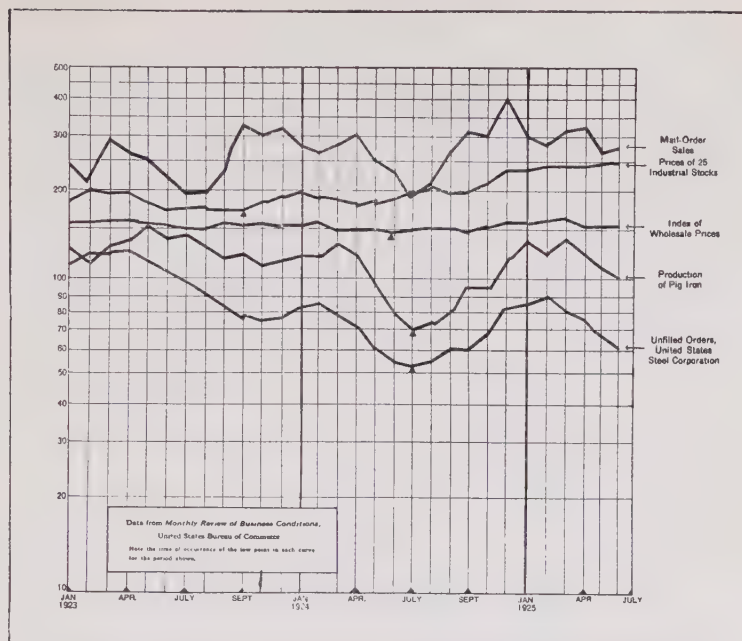


Figure 22: Movement of five indexes of business conditions.

Agricultural figures, as stated, have an important and sometimes determining influence on prosperity, but do not follow the same cyclic law.

It is of very practical interest to classify one's business as to how it is affected by the cyclic trend. Some feel the effects early, some, like retail trade, late, some experience a reverse effect. Newspapers and other publications usually suffer during periods of increasing circulation, for the actual publication is very often sold below the cost of production and profits are based on advertising, whose price in turn is based on the older, smaller circulation figures.

It is sometimes possible to establish a relationship between prosperity of the business and some special factor. The relation between rural prosperity and the sale of agricultural implements is clear.

BUSINESS BAROMETERS

A composite picture of business tendencies may be presented by selecting several representative indexes of condition and combining them. There are several such barometers published, among which may be mentioned the Harvard and Babson barometers. The Harvard index of general business conditions is a series of three curves, an "A" curve for speculation, a "B" curve for business, and a "C" curve for money.¹ The following items are used as the basis for the three curves:

"A" curve, speculation:

New York bank debits

Prices of 20 industrial stocks

"B" curve, business:

Bank debits of 140 cities outside of New York

Index of prices of 10 sensitive commodities

"C" curve, money:

Interest rate on 4-6 months' commercial paper

The figures for these three groups are presented by curves, with a combined curve.

The Babson "compositplot" is based on index figures for immigration, new building, failures, check transactions, commodity prices, total foreign trade, foreign money rates, domestic money rates, yields of principal crops, railroad earnings, Canadian conditions, and stock market conditions. The curve representing the composite tendency of these elements is plotted and compared with a base curve representing the long-time tendency of business to increase. An interesting feature of the Babson curve is the theory on which future developments are predicted. This theory is that, while the violence of the cyclic swing above or below the base curve of the long-time tendency may vary from cycle to cycle, the area enclosed by the curve above and below the line tends to remain constant. While this theory

¹Harvard Economic Service Letters, and Review of Economic Statistics, Harvard Committee of Economic Research.

may be of some assistance in predicting the probable appearance of a change in conditions, it is subject to so many uncertainties, such as a change in the base line, and has so little fundamental proof of the assumption that "action equals reaction" that it is open to question as a scientifically correct method of prediction.

A great many summaries of business conditions are available. The Federal Reserve banks publish, in monthly bulletins, a very useful summary of business conditions, and many of the larger banks publish and distribute similar summaries on request. The United States Department of Commerce publishes a very complete and useful *Survey of Business Conditions*.

THE USE OF FORECASTS IN BUSINESS

The business depression of 1920 emphasized the value of a prophetic study of business tendencies. When the crest of the boom was past, many companies found themselves loaded with heavy inventories on which tremendous depreciations had to be taken, or committed to orders which they could not use. An immediate policy of sharp retrenchment saved many companies from more serious losses.

A few companies had followed old Colonel Vanderbilt's motto of "letting the other fellow take the last cent" of the profit from a rise or fall in prices, and had put their houses in order by cautious buying and restraint of expansion. One of the companies which took to the storm cellar in time was the Dennison Manufacturing Company. The Dennison Company during the boom period followed a policy of developing a variety of new lines, which were not put on the market during the boom. Salesmen were familiarized with these lines and an aggressive sales campaign was planned, which was all ready to launch as soon as the first flurry of the crisis had passed, and which enabled the company to hold up its sales without serious interruption during the years of the depression.

XXI

MANUFACTURING

General management and production. The great industrial groups. Integration of industries. The problems of production. Designing the product. Analysis of operations—motion study. A typical motion study. Operation analysis—routing. Layout of the factory. Mixed processes. Other details of the factory plan. Machines and tools. Tool design and supply. Moving materials. Investment and cost angles of equipment. Standardization. Putting standards into effect.

A MANUFACTURING business is a “typical” business such as the one we have been assuming in the previous chapters, plus a production department. Manufacturing involves a merchandising problem, organization, finance, accounting, purchasing and storage of materials, credit management, and the activities we have been describing as typical of businesses in general. It is subject to the same laws of good management. Rapid turnover, high unit profit per turn, planning in advance of performance, analysis and control of expense, the anticipation, allowance, and provision of protection for risks, all apply to it, with the addition of its own special problems, technical and administrative, made necessary by its task of production. Sometimes manufacturing is but an incident to mercantile operations. The Jewel Tea Company is primarily a wagon distributor of teas, coffees, flavoring extracts, and similar food products. However, it operates a coffee roasting, grinding, and packing department which is a true factory. Sometimes the financial and mercantile departments are quite secondary to the problem of production, as in the case of the Western Machine Tool Works, which sells the entire output of its specialty, machine tools, to a single jobber and does not directly concern itself about sales. In this and the succeeding chapter we will be concerned with production.

THE GREAT INDUSTRIAL GROUPS

So large a part of the problem of manufacturing, in this restricted sense, is a problem of technical methods and of organization to permit of the application of such methods to the product, that an intelligible idea of the problem of production will be much more easily obtained by a brief description of the activities of the major industrial groups. Table 8, modified from the United States Census of 1919, summarizes the major groups of manufacturing industries and gives some idea of their relative importance.

TABLE 8

CLASSIFICATION OF MAJOR GROUPS OF MANUFACTURING INDUSTRIES AND THEIR RELATIVE IMPORTANCE, 1919

Group	Number of Establishments	Number of Wage-Earners (Thous'ds)	Capital	Value of Production
			In Millions	of Dollars
Food and kindred products....	61,312	685	\$ 4,615	\$12,439
Iron and steel products.....	20,120	1,585	8,712	9,404
Textiles and their products...	28,552	1,611	6,096	9,216
Chemicals and allied products.	12,224	427	5,618	5,610
Vehicles for land transportation	21,152	496	2,423	4,059
Lumber and its remanufactures	39,955	839	2,580	3,070
Paper and printing.....	36,403	510	2,382	3,012
Metals, other than iron.....	10,667	339	1,797	2,760
Leather and its finished products.....	6,397	349	1,522	2,610
Railway repair shops.....	2,368	516	777	1,354
Stone, clay, and glass products..	12,539	299	1,262	1,086
Tobacco manufactures.....	10,291	157	605	1,013
Liquors and beverages.....	6,354	55	781	604
Miscellaneous.....	21,781	1,227	5,295	6,180
All industries.....	290,105	9,096	44,467	62,418

In the making of food products, the process typically involves a bulk process of grinding, cooking, and so forth, or a simple repetitive process, such as shaping candies, cookies, loaves of bread, and packaging. Manufacture of any particular product seldom requires any great variation in process, and such establishments as bakeries, candy factories, canneries, flour mills, meat and fruit packing, or sugar refineries are usually comparatively simple as produc-

tion problems, although they may involve interesting technical, marketing, and financial problems.

The iron and steel industries fall into many groups, of which the principal might be classified as follows: the smelting of the ore to produce pig iron, foundries for casting iron and steel, rolling mills producing structural shapes and sheets, wire and rod drawing, the manufacture of machine tools, and many other secondary fabricating and assembling industries. The originating processes, smelting and rolling, are usually massive repetitive industries, producing standard products in great volume with a high degree of efficiency. There is a great variation in the nature of the other processes. Some, making a simple standard product, present few managerial problems, others, such as the manufacture of special tools and machinery, or the work of a jobbing foundry, give rise to very intricate problems of control.

The textile industry includes the spinning and weaving of cloth, tailoring (which includes cutting and sewing), and a variety of allied industries.

The chemical industry includes such processes as the coal tar, dye, oil, and paint groups, the heavy or bulk sodas and acids, pharmaceutical preparations, electro-chemical processes, celluloid, artificial leather, gases, and so forth. The chemical industries are predominantly characterized by large-scale bulk processes requiring high-grade supervision of technical details but unskilled labor and simple routine planning and control.

Of the vehicle industry the manufacture of automobiles and accessories is today the principal item. Automobile manufacture is, in the main, a business of machine production and semimachine or hand assembly of a great number of unit parts, and presents, on the whole, an involved problem of control and management. The pace is fast today in the automobile business. Large-scale production and modern methods have come to the front here, more quickly than in the older, more conservative industries.

The wood-working business includes the manufacture of lumber and millwork, furniture manufacture, and a great variety of smaller lines.

The paper and printing business includes the making of paper, printing, newspaper and magazine publishing, book publishing, and allied trades. Paper-making is usually a comparatively simple, bulk repetitive process. Newspaper and magazine printing also tend to be mainly of repetitive type; much job printing is extremely special, involving considerable detail in control.

INTEGRATION OF INDUSTRIES

The particular industry is intimately related to others in its own and other groups, in a great variety of ways. Sometimes a long series of operations are carried on by one manufacturer, as in the case of the Ford car, which from mines and forests to finished car is the product of one organization. Sometimes the industry is broken into very minute steps. In the printing industry there are concerns that specialize in setting up type. Many publishers today do no printing, confining their activities to the editorial, selling, and advertising end of the business. Buying, marketing, and other arrangements depend very intimately on these functional relations, which make the individual concern but a link in the productive organization which supplies the final consumer.

THE PROBLEMS OF PRODUCTION

The functions of production were defined in Chapter II as design, supply, control, and operation, and the typical departments organized to perform these functions were there described. The problems of design of product, and of design of tools, supply of tools, and technical operation are very closely related and may well be discussed before taking up the problem of control of production.

DESIGNING THE PRODUCT

The problems of design were all settled years ago in many industries. Nails, lumber sizes, flour milling, safety pins, bottles, pipe, and hundreds of other articles are made with little change from one year to the next. True, there are inventions and improvements from time to time, perhaps patented, perhaps not, which ultimately become common property and are generally adopted, and some companies feel it profitable to conduct research work for the improvement of such standardized products, often with quite remarkable results. But in such industries, design of the product is a detached and incidental problem.

A much larger problem of design is met with in those industries which cater to the unstandardized portion of the wants of business. Makers of special machinery, such as the intricate semiautomatic machines with the aid of which crackers are counted, boxed, and packed for shipment, receive in concentrated form the unstandardized demands of a variety of trades. Printers and advertising novelty manufacturers are in the same position.

Another type requiring much special design is the engineering industries, making special machinery such as large turbines, or material conveyers, or structural steel constructions, to fit various special needs for which standardization is only partially possible.

The style industries, or those affected by style, such as clothing, furniture, automobiles, and others, present a slightly different design problem. Here the article is usually made in quantities (except in what may be called artistic production, usually very small-scale). But high-grade designers must be kept constantly at work revising styles, and the production process requires frequent small modifications and changes of processes which, on the whole, are standardized.

Designing an article requires usually the preparation of drawings which indicate the shape, dimensions, and finish

of the article. A bill of material must also be made up in some form, indicating the quantities and kinds of material required. From the design of the product follows logically the planning of the whole apparatus and process of production.

ANALYSIS OF OPERATIONS—MOTION STUDY

Much of the progress of manufacturing in recent years has been obtained through the careful scrutiny of design and of manufacturing methods. Taylor's work in studying the cutting of metals has already been alluded to, and resulted in increasing the speed of lathes and metal-cutting tools to as high as 20 times the old speed. Time and motion study are used for the same purpose of improving methods.

A TYPICAL MOTION STUDY

A good example of the constructive possibilities of time and motion study is furnished in a study of a shear for cutting bar steel to length, which was made in a large structural steel warehouse, and was furnished the writer through the courtesy of I. A. Berndt and W. S. Campbell.

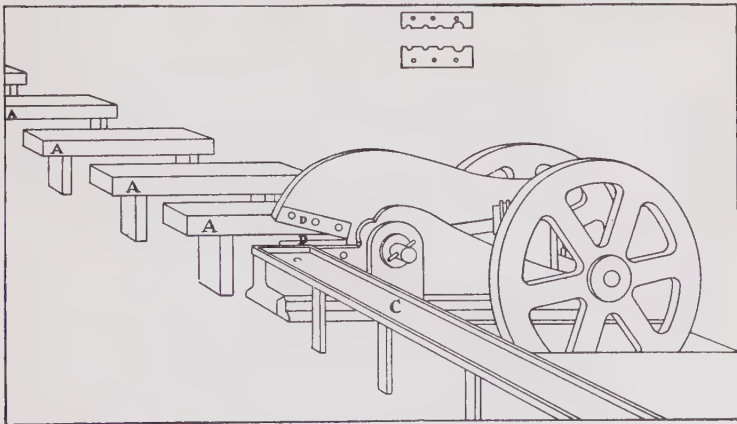


Figure 23: Motion study of a shear.

The alligator shear, which cuts the rods by an up-and-down motion of the jaws, *D*, was mounted as shown in Figure 23. Bars were brought to this shear in bundles by an overhead crane and placed on skids *A, A, A*, from which they were fed through the shears and cut by the operator, the length being regulated by a stop gage placed on the bed, *C*. An analysis disclosed the following conditions, noted with their corrections below:

1. *Laxity in dispatching.* The order of jobs ahead of the workman was constantly interfered with by foremen and order clerks who interrupted one job before it was completed, to commence another that appeared to be more urgent. This was corrected by making one dispatcher responsible for all changes in the order of jobs and insisting that this order of jobs be settled as far as possible before the work was given to the shearman.

2. *The supply of material* to the shearman was either too large or too small. Often a whole bundle would be supplied when only a few rods were ordered cut. This was remedied by checking each individual order in the office before dispatching, and indicating on the craneman's ticket the exact number to be delivered. This also reduced the amount of scrap or odd-length material.

3. *The skids A, A, A were too small* to take a full load. This was remedied by using larger skids, and at the same time the skids were arranged to slope downward to the shear to assist the operator in sliding the bar to the shear, and a set of rollers was placed on the skids. It was found that with this arrangement, only 25% of the force formerly used was needed to move the bar toward the shears.

4. It was *necessary to change the blades D, D*, every time a different kind of stock was handled, since the flat blades would deform the bars. A special set of blades (shown separately) was made and notched to take the various shapes of bar, with enough notches to cut two or three bars at a time instead of only one.

5. *An awkward wrench* was used to tighten the bolts which attached the jaws to the shear. It was necessary to take it off and reset it every half-turn. A tee-headed set wrench was substituted, which permitted turning down the bolt rapidly and easily.

The final result of these changes was shown by studies which proved that three times the work could be done in the same time, with the same machine and operator, without additional exertion.

This is typical of the means by which the exact methods of production are analyzed under scientific management. A study is made not only of the machine and method of operation, but of other and more economical processes which might be substituted, of the condition of the material and its suitability and preparation for easy processing, of the methods of scheduling and supply, of the wage system, and of all other factors which affect the economy of the result.

OPERATION ANALYSIS—ROUTING

In addition to such motion studies and often preceding them will be the preparation of a plan (or design) for the general process of manufacture. An interesting illustration of the results of operation analysis is given in the manufacture of the "Tinker toy" by the Toy Tinkers of Evans-ton. The Tinker toy is a child's toy consisting of a number of slender round wooden rods, and of perforated hubs with which the rods may be combined to make windmills, furniture, and other fanciful combinations. The rods and hubs are bought ready-made, but the holes for the hubs are bored in a special machine owned by the company, and another special machine cuts a slit in the end of each rod and sizes the end true to size. In planning the department for turning out the Tinker toy, the operation layout man or route clerk would start with the bill of material—say 24 rods, 12 hubs, 6 small cardboard vanes for windmills, an instruction sheet, a box, and cover. For an estimated output

of so many thousands of toys, the number of rods and hubs to be purchased may easily be computed, also the number of cartons, cardboard vanes, and instruction sheets, these latter items also being bought ready for use. The capacity of the special boring and slitting machines is also known, and the number of these machines required for the given output may also be computed accurately. In this case only one of each was required. The final process is the inspection and packing of the rods. This is done by a group of people, distributed as follows:

Inspector, who rapidly inspects the hubs as they move past him in a special glass fixture, and loads them by an automatic counter into the carton.

Supply boy, who, from time to time as needed, brings empty cartons from a nearby reserve supply and places them in front of the inspector. He also brings bundles of the wooden rods to the operator.

Sorters, each of whom picks up the required number of a particular size of rod and places them in the carton, which is passed from hand to hand from the inspector to the final packer.

Packer, who puts in the directions, screws on the cover, and places the carton in a packing box.

The boxes are placed on a conveyer, sealed, and conveyed down to the storage room.

The proper number of operators for each operation in packing was worked out by observation and computation of the time required per unit operation, multiplied by the number to be made.

In a similar manner it is customary to take the bill of materials, and for each part to be made:

1. *List the operations* to be performed;
2. *Estimate the capacity* of the machine or workmen for each operation, and compute the number of machines and men needed.

The results of this layout of manufacturing processes for the product may be embodied in a *route sheet*, which

is a card or loose-leaf sheet, filed by the name or symbol number of the article, and preserving as a permanent record, for each article manufactured, the process of manufacture adopted as standard. The route sheet usually lists the raw materials required for the product, and in order, the successive operations, which are described fully enough so that the description can be copied and used as an instruction card for the workman performing the operation. For each operation, the appropriate machine to do the work is designated and standard time, piece-work price, and other information as needed are recorded. The route sheet thus serves as a permanent record of process. It may be referred to each time the article is made, instruction cards being copied from it for the job. By the provision of several checking columns opposite the operation numbers, the route sheet may be used as a record of progress for successive lots of the article.

LAYOUT OF THE FACTORY

The further application of this idea of operation analysis indicates the possibility of building the factory around the process, so to speak. Knowing the machine capacity and the order in which operations are to be performed, we can next estimate the space required by each machine and arrange these machines into an efficient plant layout, using paper templates drawn to scale and laid out on a scale drawing of the proposed floor plan.

Figure 24 illustrates the flow of material in a factory making punch presses. Pig iron and other materials are handled almost entirely by machinery, from the receiving tracks through the foundry to the machine-shop and to shipping.

An estimate of cost of equipment, of pay-roll, and of material requirements is also possible by the same process, and with sufficient accuracy at least to be of assistance in the financial planning. Needs for auxiliary departments, for office space, and so forth, may be computed in the same fashion, using unit figures based on experience.



Figure 25: Assembling the Hotpoint Iron.

This picture shows the finishing end of the assembly line. The iron is moved slowly past the operators on the moving belt. The operators of the conveyor belt are getting the iron in the position. The good position is the position. The last operators in the line are getting the iron in the position. Note the arrangement of the iron on the conveyor belt showing the final assembly.

MIXED PROCESSES

The method described is that which would be used in a flow industry, in which the whole department or factory is in reality only a single tool for the complete production of the article. Often, however, such a variety of products is made, that general-purpose machinery is used, a temporary combination of machines and processes being made, now for this product, now for that. In this case machine capacity could be figured as the sum of the requirements, based on the estimated outputs of each product. Computations are usually much more approximate in this case, since the relative demands for the various lines are apt to vary from time to time.

The shop layout for the flow or one-product unit is the closest possible approach to a straight line, the material being passed from hand to hand straight from start to finish. Thus in the factory of the Edison Electric Appliance Company two of the principal products are electric flatirons and electric stoves. For each of these, raw material comes in in carloads on a siding at one end of the factory and is unloaded directly into a storeroom which extends across this end of the large factory building. Taking the case of ovens, the sheets composing the sides, and the various other parts, start from the storeroom and move, process by process, through the various operations of stamping, forming, spot-welding, enameling, and so forth, to the assembly department. Here the unit parts are first assembled and these unit assemblies converge to a slow-moving conveyer, on which the final assembly is completed, ending up with crating and, in many cases, direct delivery to a loading platform from which the range is packed into a car and shipped out on a railway sidetrack at the finished-stock end of the building. With some minor necessary digressions, flatiron manufacture follows a similar straight-line process, as shown in part in Figure 25.

In mixed manufacture the progressive layout is possible,

however, only where the various processes are done in about the same general fashion and on the same machines, variations being effected by changing tools. Tailoring men's suits, for example, involves special instructions covering a great variety of sizes and details, but the general flow of work is in the same direction.

Where the processes differ in order and kind, there is usually no longer an advantage in trying to secure a progressive flow, and machines of a kind are grouped together into one department for better supervision and load factor, and the work is moved from department to department as may be required.

OTHER DETAILS OF THE FACTORY PLAN

The layout indicated by the process requirements must, of course, be modified to conform to a variety of other requirements. One of these is the economical application of power, by belting and motors. Another is the need for providing aisle and storage spaces. Another is the need for good lighting. Machines should face sidewise to the light if possible, windows should be high and large enough, and the depth or width of the building should not be out of proportion to the height. Safety of operators around machines, ventilation and heating, sanitation, shop offices, entrances, locker rooms, storerooms and toolrooms, and storage of material at the machines must all be considered in the finished plans. The type of construction must be decided upon. Among the commoner factory types are the mill type building, with brick walls and heavy wooden pillars and floors, the structural steel building, the reenforced concrete structure.

MACHINES AND TOOLS

In each trade there are usually a large number of well-standardized operations, which are used by a sufficient num-

ber of businesses to justify the development of standard machines, which can be adapted to variations in the product by the use of special tools and attachments. The punch press is a machine adapted to stamping out shapes by the simple up-and-down motion of a powerful plunger. It is a perfectly staple machine, made in a range of sizes as to power, length and speed of stroke, size of material it will take, and so forth, and it is used in dozens of industries. Such standard machines are advisable, where possible, from every point of view. The first model of a special, small hook-turning machine cost the writer \$115. It can now be duplicated for \$20. The standard machine is much cheaper. It also has much higher salvage value. Salvage on a costly special machine may be practically nil if there are no other users of it. The standard machine is also more adaptable in most cases. If the product is redesigned, it is necessary simply to secure a new tool or fixture.

But in spite of these advantages a good deal must usually be spent for special machines, and particularly for tools and fixtures. The special machine may be more closely adapted to the work, an economy where the quantity is great. Thus the speed of a spring-coiling machine depends on the length of the wire coiled, since the feed rollers must feed the wire against the forming cams at a uniform speed. A general-purpose coiler must be made with capacity to coil the longest spring to be formed, which might take 12 feet of wire. On a 6-foot wire length of spring, the coiler would run idle half the time, and a machine built for this size alone would turn out double the output.

A surprising amount of special appliances are needed for nearly all kinds of work. As much as two-thirds or three-fourths of the cost of cement construction may be incurred in putting up the wood forms, which are removed when the job is done. In the punch press mentioned, to make the cover of a hunting case type of watch, probably three or four sets of expensive dies would be needed, the first to stamp the round blank out of the flat metal, the second to

shape it into the dish or saucer shape, with additional dies to emboss the design on the back, and form the hinge. Various holding devices, such as "jigs," which clamp the part in a box so it can be worked on for drilling, and similar attachments, are also necessary.

TOOL DESIGN AND SUPPLY

To work out the details of tools needed from the bill of materials, may be a job taking weeks or months of work. About a year may be needed to prepare the tooling of a new model of automobile. In industries having much of this work, there is usually a department of tool design, which works from the product design, to process design and tooling. Many factories have their own toolmaking and repair departments, which permit the company to make up special machines not available to competitors, and to economize as well in cost and time. A tool storage department is also a feature of most well-managed factories using many loose tools. An economy is produced by centralizing the supply so that more than one department can use a special tool. The loss of tools is minimized, and the work of keeping them in order can be done by special workmen, saving the time of the men at the machine. The administration of the tool storage department is similar in many respects to that of a material storeroom.

MOVING MATERIALS

Another plant problem often involving careful planning and large outlay is the equipment for moving materials. This varies all the way from small boxes hauled around by hand, to huge 20-ton cranes, industrial railroads, and elaborate monorail overhead conveyer systems. This, like tool design, requires careful selection and study, and attention at every point, to make the movement of material rapid and economical.

INVESTMENT AND COST ANGLES OF EQUIPMENT

Several points, already mentioned, may here be referred to again to tie them up with this discussion. Not the least important problem in planning equipment is the right balancing of investment and savings in operation, for greatest total economy. Here the concern with limited capital tends to sacrifice operating economy to rapid turnover and may be justified in doing so. The company which has built up larger reserves and has entrenched its position, tends to develop in the direction of lowering operating costs by investment. Again this is as it should be.

The risk of obsolescence is also seriously to be weighed. It is very great on special tools and machines, and it is often well, when the useful selling life of a design is still uncertain, to tool it in temporary fashion, using carbon steel instead of the higher-priced but more durable high-speed steel, for example.

Tools made specially for a customer's job are usually figured as part of the cost of the job. Sometimes they are separately charged to the customer and are considered his property, as in the case of foundry patterns for cast-iron shapes. Sometimes they remain company property, and increase the profit on future jobs, as in the case of the electrotypes often made by printers of a customer's printed forms.

STANDARDIZATION

The details of design, operation analysis, and operating method so accurately worked out by the designing departments must be recorded to be of greatest value. A file is usually kept of blue-prints and bills of material for each job, and cost cards are available to show its actual cost. The process analysis is filled in on a standard route sheet which describes each operation, gives the machine, the material required, tool and drawing numbers, piece-rates, and so forth. This also is filed by pattern number. Sample

parts are also often filed away for reference in case any question comes up as to dimension and finish, or in case of loss of drawings. This is not always necessary. A record is kept of dies, patterns, and other equipment, loaned to or in the hands of other companies which supply parts of the product. And the time-study records, showing elementary and standard times, are also on file.

As can be imagined, the task of building up a full analysis and record of product and process is not an easy one. Two engineers were kept steadily at work for over two years in preparing a detailed bill of materials and specifications for the standard Pullman car. It is not always profitable to aim at complete records where the product is changing rapidly or is simple and already well standardized in practice. Perhaps the greatest value of the records is the surprising amount of overlooked inefficiencies and opportunities for improvement which such a detailed and comprehensive analysis reveals.

PUTTING STANDARDS INTO EFFECT

Where the process of study and standardization indicates the desirability of substantial changes in method, almost as much work may be required to effect the changes as to discover their need. For a time the men doing the work the new way will have to be patiently instructed and corrected and rigidly supervised. Carl Barth's system, like that of Mr. Taylor, in introducing such changes, was to insist on the letter of the law until the new habits had been established. After that, an unnecessary form could be done away with here and there, short-cuts permitted where not at the expense of results, and the supervisory force reduced.

Maintenance of the standards, once they are understood and in effect, depends on the control function to be discussed in the next chapter. It is a problem of instruction, discipline, supervision, and inspection.

XXII

PLANNING AND PRODUCTION CONTROL

The problem as a whole. The cycle of planning as applied to production control. The elements in production control. The production order. Program control in repetitive industries. The production program in the non-repetitive industry. Control by follow-up. Planned control. A typical system. The Gantt chart. Choice of a production-control system. Other production-control problems. Control of quality.

IN operating the factory and using the plant and the design of product discussed in the previous chapter, we have a situation which calls for planning of a nature similar to that used in making a budget, or in arranging the layout of the factory itself. Taking for granted a sales organization, a system of supply of materials, designs, equipment, and workmen, the problem of production control, from the selling standpoint, is to secure a sufficient volume of the kind of business the company is prepared to handle. From the financing standpoint it is to provide the funds and manage existing capital so as to supply materials when needed and to carry the expense of inventory, labor and burden, and accounts receivable up to the time the goods are paid for. From the production standpoint, the problem is to plan the work so that customers' shipping dates may be met and the personnel and the machine capacity of the plant be used to the best advantage in economically producing a good product.

This is all really one single problem, of which the financial phases, selling phases, production, personnel, and purchasing phases are delegated to the various respective departments. Each of these departments must operate in harmony with the one general plan. With so many details to be reconciled into one plan, one would expect conflict at

times, and such conflict is sometimes met with, between production and selling considerations, and purchasing and financial considerations. In such cases it is the general executive who decides which factor is most important.

The financial budget described in Chapter XI is really a plan controlling all these considerations, a plan built up as described in the previous chapter from the plans of the various departments, from outputs and activities translated into units of salaries and wages to be paid, materials to be purchased, credits to be extended, or new capital investments to be made.

THE CYCLE OF PLANNING AS APPLIED TO PRODUCTION, CONTROL

Production control involves a similar coordination of the productive elements into a single program. Like any other form of planning, it involves the steps described in Chapter III; namely, (1) the gathering and effective classification and presentation of the facts; (2) decision, the making of the schedule or plan; (3) execution, which in turn involves (a) dispatching or giving orders, (b) performance, and (c) inspection and follow-up.

These steps are exemplified by the planning system of the Alpha Motor Manufacturing Company, which manufactures automobile motors. Information comes to the production superintendent in the form of sales orders with expected dates of delivery. The production department ascertains from the stores department that all needed parts and materials are at hand and checks this order against other orders which have already been assigned to the shop schedule. With this information before the schedule superintendent, he is prepared for the step of decision, which consists simply in assigning the order, say for 20 motors of a particular type, to the second, third, or fourth week in the current or the next monthly schedule. Dispatching is accomplished by handing copies of this schedule to the

IMPERIAL GEAR COMPANY					
Shipping list for month of <u>January</u> , 19 <u>25</u>					
Our Order Number	Customer	Quantity Ordered	Pattern, Diameter, Pitch, etc.	Date Promised	Date Shipped
33684	Smith and Brown	100	26A-10"-4-4"	1/5	
33685	The Day Co.	100	4T- 6"-10-1"	1/7	
		20	4W- 6"-8-1"		
		2	19B-24"-4-2"		
33688	T. and T. Mach. Co.	50	3A-22"-3-3"	1/8	
Etc.					

Copies to foremen _____		Signed: _____	
_____ Siegrist		_____ Allen Superintendent of Production	

Figure 26: Typical form of production order.

general foremen, who in turn issue the orders which put the work into operation. From day to day, orders which are behind schedule are checked up, and once each week the whole list of orders is gone over to see that, in each, performance is according to schedule. When it is impossible to follow the schedule, the particular order is referred to the production superintendent for rescheduling. A typical schedule of this sort is shown in Figure 26.

THE ELEMENTS IN PRODUCTION CONTROL

Operating the factory efficiently requires controls of several types. First comes *time control*, which involves securing coordination and adherence to a determined schedule by all the various departments concerned in handling an order. The designing department must have the plans completed by a specified date; the purchasing and stores department must have material on hand at the scheduled time for operation; the various operating departments, the assembly, inspection, packing, and shipping departments, each must complete its work in time for the next operation to be performed on schedule. Next comes the question of *financial control*, such as the operating budget, which has already

been described. Next come supervision, instructions, and discipline or *personnel control*. Next comes inspection, or *control of conformity to design and quality standards*. And finally cost and accounting *control of conformity to expenditure standards* must be considered.

THE PRODUCTION ORDER

The process of production is started by the production order, and there are three general systems of initiating these orders. The first of these is *production to quota*. In repetitive industries, such as the manufacture of harvesting machinery by the International Harvester Company, the sales estimate furnished to the manufacturing department informs this department of the requirements for some time in advance, for each of the principal types of parts and machinery to be made. From these requirements, a weekly production quota is worked out and furnished to each foreman, and it is his task to meet this quota week by week for the whole period of the schedule. Any considerable increase or falling off in sales would, of course, make it necessary to revise the quota, but this would not ordinarily happen more than once in a season, if it happened at all.

A second system is control and ordering by *stock limits*. A perpetual inventory (to be further described in the next chapter) is kept for each item of stock, and a certain quantity of finished stock is carried in each item. A minimum limit is set for each pattern, and when sales reduce the stock to this minimum, a production order is placed for a lot of a certain size, perhaps 100 or 1,000. The minimum quantity provides a reserve of stock which lasts till the new order is received. This plan may also be applied to the control of ordering unit parts or raw material. As a system of production control for the factory, it lacks the regularity of the quota system, since the orders come intermittently and more or less irregularly. But it controls the investment in stocks, accumulates orders into lots large enough for

economical manufacture, and is the simplest and best method of control where there is a variety of irregularly moving items. It may be combined with the first plan, production being to a scheduled quota, but with stock limits to shut off production or increase it if it gets out of alignment.

The third system is production to *individual customer's order*. There are several variations of this plan. One form is that used where large orders for special machinery are received, and each customer's order is put through and handled as a separate unit, in the non-repetitive industry. Another type, with various modifications, is found in repetitive or semi-repetitive businesses, where production is on sold order only, but orders for a like product are accumulated until there are enough to make an economically sized manufacturing lot, and then run. This plan is used in rolling steel, drawing wire, tailoring, and many other cases.

PROGRAM CONTROL IN REPETITIVE INDUSTRIES

The distinction, intimated in the previous chapter, between repetitive and non-repetitive industries, is a very important one. The repetitive industry is one in which the same product is turned out day after day, or with variations so slight as not to affect the general arrangement and relationship of processes. The Tinker toy assembly mentioned is a good illustration on a small scale of a department of this type. Each operator, man or girl, has a single task at a fixed point in the production series. The group works day in, day out, like a single machine, in finishing and packing the parts of the Tinker toy. Once the operators are instructed in their work and the line is working smoothly, very little further is needed than to supply the materials for assembly. If orders fall off or increase, it may be necessary to work the group part-time or overtime, or lay off part of the crew or increase it. It is necessary to have some system of follow-up, to make sure that the first processes,

of boring the holes in the hubs, or any other processes, are holding up to schedule, so as not to delay the later operations, or to clog them with too fast a flow of work. The supply of materials must be carefully watched and kept uniform. Discipline and inspection, of course, must be kept up.

The Alpha Motor plant, referred to, was primarily of this flow, progressive, or repetitive type of industry. Control is very simple and economical in type. It is not necessary to give specific orders to each workman, or to control the program of each machine, since each man knows his work and does it as it comes to him, and the whole group functions as a unit.

The principal instrument of control in this case is the shipping schedule, shown in Figure 26, on page 339.

A large part of the work of the production superintendent in a flow industry is concerned with the great or small emergencies which tend to throw the various processes out of step. Today he may be conferring with the purchasing department as to a delayed shipment and arranging with this department to send a special tracer representative to the supplier to hurry delivery. The next call may be from a department having trouble with material and, in consequence, behind schedule. He is also responsible for the adjustment of the schedule to variations in sales. He decides, subject to approval of the general manager, whether to make up material for finished stock in order to keep the force busy during temporary slack periods. He confers with the operating superintendent in ordering lay-offs, overtime, or increases in force to meet larger demands.

THE PRODUCTION PROGRAM IN THE NON-REPETITIVE INDUSTRY

The characteristic of the non-repetitive industry is that its equipment is not arranged in fixed groups, each for the production of a single or slightly varying commodity, but

that the equipment must be adapted to the handling of a variety of orders. Naturally, there are all sorts of intermediate types, repetitive in some features, non-repetitive in others, with a corresponding variation in the plan of control. In the typical non-repetitive industry, however, the characteristic situation is that for each order a special routing must be made, calling for a more or less differing order of performance of processes, and relative amount of time for each process. Thus in a printing shop, one order will call perhaps for work in the hand-composing department, press work on a Gordon press, and no work in the bindery. The next order might call for machine composing or typesetting, work on a cylinder press, and assembly and stitching in the bindery department. Each job may call for a different set-up, and theoretically the plant is continually being rearranged into new temporary combinations of machines to act as producing units for the various orders.

It is at once apparent that production control is a much more involved operation where this situation exists. To get the various jobs through the factory simultaneously, the temporary layout of processes for one order must be dovetailed, without interference, with the layout for all the other orders. This means that the order of work at each machine must be controlled for each job, and a separate schedule is needed for each machine. Two elements must be considered in scheduling, one being the arrangement of the various jobs so that each machine and workman may have steady work, without interruption or congestion as far as practicable. The other consideration is that the various jobs shall be completed within the time set for their completion.

A good deal of shifting and fitting is often necessary to reconcile these two requirements. Sales may run so that now one department, as the pressroom, is overburdened and another, as the bindery, has little to do. A month later, the condition may be reversed. Sometimes these shifts are periodic and can be planned for, as when the products are

of a seasonal nature, but often about all that can be done is to meet them as they come, relieving pressure by shifting work to idle machines or by night-work, doing the best that can be done to fill out the programs of slack departments or machines by crowding work ahead or making up stock, or scheduling employees' vacations, overhauling of machinery, and so forth, to coincide with the slack period.

CONTROL BY FOLLOW-UP

Two types of control systems are commonly met with, the difference being more in degree and underlying philosophy, than in kind. One system meets the event as it arises, the other plans as completely as possible and provides for the situation in advance.

For many types of business the former plan is simpler and sufficiently accurate. With this type of control the work is started without exact scheduling, and is allowed to find its way from department to department with attention only if it is delayed. A shipping schedule such as that shown in Figure 26 is made, but this is more of a hope than a schedule, of value mainly in aiding foremen to keep track of jobs and in guiding them in deciding which job is most urgent.

A tag is attached to the material for each job, giving the order number, number of pieces, description of the job, and a list, in proper order, of the departments to work on the job. The material is given to the first foreman, he looks it up on the schedule, sees whether it is urgent, and decides when to start it. When it is finished, he sends it to the next foreman on the list, and the process is repeated. One or more follow-up men are employed, and if any order is wanted in a hurry by the customer or has run past the shipping date, the follow-up man applies pressure to hurry it up, substituting it for some other job then in work, resubjecting it if it has gotten into a corner and been forgotten, and so on.

For many industries this control answers the purpose very well. It is not as fast nor as accurate as fully planned scheduling; hence, the inventory will be larger and there must be some unused machine capacity in reserve for emergencies, and to compensate for the fact that machines are not as fully used to capacity. But the gain in these items may be less than the clerical cost of complete control, where inventories and equipment investment are not large, or the process is simple.

PLANNED CONTROL

There are various degrees of control between that in which the work starts without schedule and finds its own way through the shop, and the type of control used at one time by the Franklin Motor Company, in which a complete schedule for each machine was laid out months ahead. One point of distinction is as to whether the whole job is scheduled in advance, or whether it is scheduled step by step as each operation is finished.

With several or many orders in the shop, complete scheduling of all orders would mean a series of interlocking schedules at the various machines. Suppose we take a simple case, three orders, *A*, *B*, *C*, each calling for three operations, 1, 2, 3, in the same order at a punch press, grinder, and assembly bench. We can show the machine schedule on a machine control board in principle like that shown in Figure 27.

Assume that operation 1 on *A* is to start on the first day, with one day for each operation, and that operation *B*-1 started on the second, and *C*-1 on the third day. The machine schedule for these items would then be as shown in Figure 27. Other orders would fill in the gaps not scheduled, and the spaces, if desired, might be divided to a scale of hours within each day's space.

In Figure 27 the whole operation on each order is scheduled in advance. But suppose that something happened to

Day of Month	1	2	3	4	5	6		30	31
Machine	Job								
Punch press	A-1	B-1	C-1						
Grinder		A-2	B-2	C-2					
Assembly bench			A-3	B-3	C-3				
Etc.									

Figure 27: Machine control board used in planned control.

delay A-1. Evidently not only all the operations on A, but those on all the other orders, would be thrown out of schedule. In practice, a certain percentage of allowance would be added to the time scheduled for this order, to take up such delays and prevent the need of remaking the schedule. But where conditions in the factory are not very accurately standardized, the attempt to schedule advance operations is usually abandoned, and the operation is not scheduled until it is ready for work.

This gives a system much like the "control by follow-up" plan previously described, but with the scheduling brought to a planning department instead of left to the foreman. This change has several advantages. It relieves a busy foreman of clerical work, with which nearly all shopmen dislike to be bothered, and which they do poorly. It also centralizes the control of orders, so that the order in which jobs are done is not subject to the caprice of various foremen, but can be settled by a schedule clerk or superintendent who keeps himself informed regarding all orders.

Where there are many new orders coming in, this system works excellently, as the schedule clerk decides the order of work at every machine, and has opportunity to push jobs through the next process as rapidly as they are reported finished at the last. Follow-up men are used here as in the follow-up control system, but their function is simply to prevent the schedule clerk from overlooking jobs, and to help him keep informed on various orders. They do not

decide the sequence of orders; that is done by the schedule clerk.

A TYPICAL SYSTEM

Perhaps this may be made more concrete by a brief description of the system of production control used by the Chicago Surface Lines repair shops. All sorts of jobs are received there, from building street-cars complete, down to replacing a broken window pane. As each job is received, it is analyzed by a route clerk who makes out an order for the necessary materials and a route sheet or list of the operations on the job. A condensed copy of this route sheet is duplicated on a tag and attached to the job, serving to inform each foreman where to move the job on completion.

For each operation a separate time and instruction card is also copied, and these cards are filed until the job is ready to start. The material order is sent out first, the material delivered to the machine, and the order returned to the planning department as notice to start the job. This department then draws the instruction card for the first operation from the file, and puts it in a Taylor planning board. Omitting certain unessential details, this board consists simply of a set of pockets, each bearing the name or number of a machine or work place. Assume that a car is to be repaired and that the first operation is cleaning. The first instruction card will be placed in the compartment for cleaning jobs. There may be other jobs waiting for the cleaners at the same point; in this case the schedule clerk will have to decide which is most important. Suppose it is decided that this job may wait its turn. Then the instruction card would be placed at the back of the file, there to wait till the cards in front of it had been given out to the cleaners and finished. When its turn comes, the card for operation number 1, cleaning, is taken out and given to the cleaning crew boss, who goes to the car, does the work, and returns the card, which also has the starting and stopping

time stamped on it for use as a time card. He then gets a cleaning order for another job, and for this car, the schedule clerk goes back to the reserve file and takes out the second operation, perhaps painting, and files the instruction card in the "painting" compartment in the same way.

As each operation card is completed, the card is checked on the route sheet, the corresponding operation on the route sheet being stamped "finished." Thus an up-to-date record is kept of the progress of the job, by means of which it may be located at any time. The planning board used in the Chicago Surface Lines Shops is shown in Figure 28.

This system follows the general lines of the Taylor system, and affords a very convenient and flexible type of control for the special-order business, where new jobs come through in great variety and the program must frequently be modified to allow for putting urgent jobs through ahead of others. To make sure that such jobs secure priority, each instruction card may be stamped in red ink, or otherwise identified so that the moment the job is placed on the planning board, it will receive attention.

THE GANTT CHART

A system of planning which bears some resemblance to the machine control board shown in Figure 27 is the Gantt chart, described by Wallace Clark in *The Gantt Chart*.¹ In this chart there are spaces laid off on cross-section paper for the various machines and work places, with a scale of days or hours drawn across the page on the same plan as in Figure 27. The assignments ahead of each machine are indicated by lines drawn, of the proper length to indicate the time scheduled for performance of the job. As new work comes in, the line is extended correspondingly. Actual performance is shown by a light line drawn in the proper machine space, above the heavy scheduled line. The schedule is drawn on the basis of a given volume of parts per hour;

¹Clark, W., *The Gantt Chart*, Ronald Press.



Figure 28—A planning board of the Taylor type—Chicago Surface Lines Shops.

The small squares of paper hung in the front of the board carry the machine or operator's number. Each machine compartment of this board has two pockets, the front one for jobs at the machine ready for work, the rear one for future jobs new at other machines. Note the time stamp behind the card file at the dispatch clerk's left.

the performance line is drawn to the same volume scale, so that it will indicate the number of hours which the job is ahead of or behind schedule. Figure 29 illustrates the principle of the Gantt chart, for one machine.

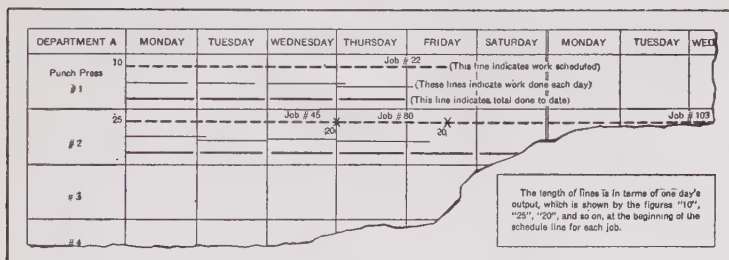


Figure 29: Gantt progress and schedule chart.

Summary charts may be made up to indicate the comparison of actual with standard performance, for the various departments or for the factory as a whole. As a factory scheduling system, the Gantt chart is most useful where the factory is working on large runs of material, on which day-to-day report of progress is desired. The chart also finds application in checking sales quotas, or wherever it is desirable to show, graphically, actual as compared with scheduled performance.

CHOICE OF A PRODUCTION-CONTROL SYSTEM

Only a few of the numerous systems of control have been described, with the purpose of bringing out the general principles of production control. In developing a system of factory planning, the engineer can make a choice among a great many devices.

There is first the choice of the system of ordering, either operating the factory on quota, on stock limit ordering, on customers' orders, or on some combination of these to fit the case. Then comes the first operation of the control process, *operation analysis or routing*. For this he may use the route sheet mentioned in Chapter XXI, or one of many

modifications of it, adapted to particular situations. The second step is the *preparation of time and instruction cards*, and working papers, and here he has the choice between preparation of these papers in advance, as described in the system used by the Chicago Surface Lines, or allowing foreman, workman, or time clerk to write them up as the job progresses. It is usually economical to write them in advance where there is any organized planning. The third step in control is *scheduling*, and here a great number of plans are available. The machine control board, the Taylor planning board, the Gantt chart, are typical of this class of devices, designed to assist the schedule clerk in getting all the facts before him and in classifying these facts (according to machine or work center) so that he makes his schedule with the least mental effort and danger of overlooking important factors in the situation. *Dispatching* is the fourth element in planning. Here there is a choice between the dispatching or giving of the order by the foreman, as in the "control by follow-up" system described, and dispatching by the planning department, as in the Chicago Surface Lines plan. There is also a choice of the mechanical device for automatically initiating the order as called for by the schedule. The Taylor board, used as described in the Surface Lines plan, is a combined schedule and dispatch board. In more elaborate systems it is sometimes used as a dispatch board alone, to guide in giving out orders indicated on a separate schedule.

The *progress record* has been mentioned only incidentally, the use of the route sheet for this purpose being mentioned in the Surface Lines plan, and the use of the light line to indicate performance in the Gantt chart. After the job is started out in the shop it would take quite a search to locate it, or find how far it had gone to completion, without some record showing how far the job had progressed. The progress record serves this purpose. This is done on the route sheet, for example, by checking the successive operations on the sheet, as they are completed.

The final requirement of schedule control is *follow-up*, usually performed by having follow-up men or "trouble shooters," who either attend to orders behind schedule, or systematically check up all orders.

Any system may be made up of parts and devices and methods selected as indicated above to fit the needs of the case. Generally for repetitive or progressive industries, the system of control is extremely simple, as in the Tinker toy or Alpha Motor plans described. Where there is greater variety of product, a stock limit system of ordering with a "control by follow-up" system of control is usually sufficient where work moves rapidly through the shop, without much complication or interlocking of schedules at machines. Where there are many small orders, or orders involving numerous and diversified operations, a plan like the Taylor system, described in modified form for the Chicago Surface Lines, is well suited. Only in highly standardized industries is it advisable to go into the more exact refinements of scheduling, although such exact control will there reflect itself in lower operating costs and more efficient use of capital. Many businesses are subject to such uncertainties and sudden changes due to sales exigencies, that a less elaborate, more flexible system fits their needs best.

The counsel of approximation does not apply, however, in operation analysis or time study, except to operations not to be repeated often. In most factories, production is a repetition, in constantly varying combinations, of a number of standard processes and patterns. Too much care cannot be taken in seeing that these standard or elementary operations and patterns are right.

OTHER PRODUCTION-CONTROL PROBLEMS

The financial side of production control has already received consideration, as have cost and accounting control. Supervision, instruction, and discipline, the problems of personnel control, will be taken up in later chapters. The

primary element in personnel control is the line organization of superintendents, foremen, and bosses, to which reference was made in Chapter IV. The foreman stands in the same relation to his men as the corporal does to the private in the army. He interprets the orders of the management to the man and supervises their accomplishment. His function is to teach, to encourage, to direct, to discipline, to act as the local representative of the management in settling perplexities and making decisions. Often a workman has hardly heard of the important executives who direct the policies of the business, sometimes even he does not know the name of the company he is working for. But he knows the foreman always, for to the workman, the foreman *is* management, personified.

Part of the function of personnel control rests in the hands of the chief executives, who decide wage policies or appear on the scene in case of trouble. A specialized part, of record and supervision of workers, and the social and extra-production contacts, is performed by the personnel department.

CONTROL OF QUALITY

Inspection is the follow-up step in the cycle of design planning. It presents its own technical and supervisory problems, but, as an organization problem, is much simpler than scheduling or time control. Ordinarily, an inspection department is organized with a chief inspector at its head, and in a large organization, supervisors or inspector foremen who correspond in function to the regular foremen. Much inspection is simple routine work, such as gaging parts and sorting into accepted or rejected lots. It requires, however, conscientiousness, patience, and a particular type of quick perception or nervous response, and sustained attention. From the scheduling standpoint, time must be allowed for it like any other operation.

The inspection department not only prevents spoiled work from reaching the customer or interfering with later

processes, but it has the opportunity to contribute considerably to the factory's efficiency by pointing out causes of trouble, such as errors in design or the use of inappropriate material.

A leisurely visit to a factory affords much material for reflection. At first one's senses are assailed by a medley of unaccustomed sights and sounds. The heavy thud of big presses, the sudden deafening staccato of the air hammer, the whining purr of saws, the snarl of speeded machines, and a thousand minor murmurs and conflicting rhythms, sudden and unexpected, beat upon the brain until it seems as if one could hardly think, and he wonders how the men who work in this inferno bear it. One moment he is dazzled by a spurt of flame from some furnace, the next he jumps as the sharp warning clang of a big overhead crane sounds unexpectedly near.

But after the visitor has had time to adjust his senses to the apparent pandemonium, in which the accustomed workman moves so unconcernedly, he may, if he is privileged, follow through the plan by which all these forces are accurately adjusted, with an often exquisite economy of effort, to the effective performance of the task. He may sense, too, if he has experience as well as imagination, the community side of factory life, the loyalties, the common interests, the friendships, the swing of a man's work. Not all factories, unfortunately, can be taken as examples of the power of organization and of group spirit, but where these are found, there is in them something to awaken the imagination a little, even in the preoccupation of the daily allotted task.

XXIII

PURCHASING AND MATERIAL SUPPLY

Centralization in buying. Merchandise buying methods. Handling of goods in merchandise houses. Merchandise inventory. Buying for production. The routine of purchasing. Purchasing procedure. Quantities to purchase. Sources of supply. Buying supplies. Traffic. Storage of materials. Accounting for materials. Other storekeeper problems. Ethics in material handling.

THE securing of materials, their handling and storage, are important in nearly all businesses except those furnishing chiefly personal or labor services. No item is of greater importance in successful merchandising than right buying, while in manufacturing, the uninterrupted operation of the factory, the profit from operation, and the reputation of the concern for a dependable product may well depend at times on the judgment of the purchasing agent. The organization for purchasing in the merchandising business is generally of a type different from that in the manufacturing business and many other types of business. The principles which underlie sound purchasing and material control, while taking their color locally from the specific case, nevertheless have much in common.

CENTRALIZATION IN BUYING

In general there is a distinct advantage in centralizing the purchase of materials, so that the entire buying is in charge of one man. Where various departments buy independently for their local needs, there is a tendency to the use of an unnecessary variety of materials. Thus in a survey of the purchasing system of New York City, it was discovered that several departments were ordering hydrants for prac-

tically identical purposes, yet each department specified its own different pattern and had its own department name cast on the hydrant. Reduction to one range of sizes, with "City of New York" cast on all, cut down the cost by increasing the size of, and standardizing, the order, and substantially decreased the amount of stock which was needed to supply the demands of various departments.

Centralization also tends toward a better control of purchases. When buying is the business of one man, responsibility for observance of budget limits can be better fixed. Deliveries can be systematically followed up, preventing delays. In general, needs will be foreseen in more orderly fashion. Materials will be more adequately and systematically inspected and better cared for.

MERCHANDISE BUYING METHODS

The advantages of centralized buying do not, however, apply with equal force in the case of the buying done by the typical retail or wholesale merchandising establishment, except in the case of those items, such as supplies, equipment, and so on, bought by all departments primarily for maintenance and operation rather than for sale.

The typical merchandising establishment handles a great variety of lines, frequently in widely differing departments, such as hardware, chinaware, and men's wear. Each class of goods is bought in a different market. Furthermore, the most important single element in buying to sell again is a knowledge of the salability of the article, and the best judge of this should in general be the man who sells. Further, there is practically no duplication of buying between departments. Because of all these facts, and because also of the importance of fixing the responsibility for the success or failure of the department clearly on the man in charge of it, it is usual to find that buying is decentralized and delegated to the department head, who has the title of buyer, in the retail store or wholesale house. Only the supplies,

stationery, equipment, and similar items, are handled through a centralized organization.

With a large number of buyers in an establishment, each exercising his own judgment as to buying, there must be some central authority to set standards, define policies, and coordinate individual department plans into a single, unified program. The policy in some of the best stores is to preserve as large a degree of decentralization as is possible, leaving the buyer, who acts as head of the department, free to secure results in his own way, holding him responsible for results and basing his compensation, in part at least, on these results. The buyer is usually selected from the ranks after a long process of training and elimination, if the house has a well-organized plan of developing men; he may be relied upon to act in harmony with general house policies, and he may be kept in touch with house plans by buyers' conferences in which the merchandise manager points out probable developments in the business situation, points the need for caution or a more vigorous policy in buying, and keeps the buyers thus constantly able intelligently to make their own plans. This is the plan of one of the largest merchandising houses. Its buyers are men of experience and they are given a large degree of discretion. A buyer going to European markets, for example, might start out with the understanding that he was to spend \$300,000. If he came back with purchases a hundred thousand in excess of this limit, nothing would be said, provided he was able to dispose of the goods at a profit.

Such a policy requires men of executive caliber in numbers; where it is not practicable to develop them, more initiative must be supplied from the top and closer limits must be set on departmental action. A very generally followed plan, even where buyers are encouraged to act on their own initiative, is the setting of fixed limits on departmental expenditure. These limits may be set as quotas, authorizing the expenditure, from month to month, of specific amounts for merchandise. Often with this plan all purchase orders

are, in form at least, approved by the merchandise manager, and are checked in his office against the departmental quota. A more indirect but nevertheless effective method of controlling departmental purchases is to set a high limit on the merchandise stock or investment of the department, leaving the department free to secure as many turnovers as possible on the given investment.

HANDLING OF GOODS IN MERCHANDISE HOUSES

After the goods are bought, they will be shipped and must be checked on receipt, to make sure that the right quality, kind, and count have been sent. One form of commercial dishonesty which must be guarded against is the "stuffing" of orders, twice as many articles being sent, perhaps, as were called for in the order, in the hope that the excess will be accepted and paid for without question. It is often difficult to check goods purchased on sample, and substitution of inferior grades must be watched for at this point. When similar grades of goods are bought from different firms, it is advisable, at least until some experience has been had with the various firms, to identify or separate the different lots so that in case any fail to give satisfaction there will be grounds for a claim.

In the small store the goods usually go direct from the unpacking shed to the counter, where they are priced by the proprietor or a clerk, and put on the shelves. In the larger store much of the stock is sold from floor sample and delivered from the warehouse. Here the stockman operates much as in a manufacturing storeroom, filling orders on requisition and placing reorder buying requisitions when stocks run low. These requisitions are sent to the buyer, who places the purchase order unless there is some reason for discontinuing the pattern.

Methods of detailed perpetual inventory are not generally used in merchandise storage, as they are in manufacturing. The goods are taken from the shelves in such small lots,

that it is hardly worth while to go to the necessary clerical work. Earl Hoyt, who made a detailed study of stock-control methods for a large wholesale mail-order house, found the most economical method of control to be, to record only the opening of whole cases of goods, a perpetual inventory being kept of cases only, and reordering in general being controlled by this inventory. Where goods were carried in smaller quantities than case lots, the personal vigilance of the stock-keeper was relied on for reordering, perhaps assisted by some mechanical stock limit such as a tag tied to the twelfth article up from the bottom of the pile, or whatever the stock limit might be, to remind him to reorder. A checkroom for employees' bundles took away any excuse for theft by taking out bundles. Theft of stock cannot always be avoided, but the great majority of employees may be relied upon, and the few who do peculate are usually caught soon if supervision is adequate. For the financial inventory, of course, with this system, a check was not only made of the unbroken lots, but all broken case lots were counted.

The old way of marking the price on goods used to be by a code system, letters being used instead of numbers. Thus LTT might mean \$3.00. In most lines this cryptic practice has been replaced by marking in plain figures.

MERCHANDISE INVENTORY

Inventorying the stock of goods is quite a task, as all goods must be figured at cost (unless present market is lower) and there may be several lots at different costs, in one pattern. One system which is now being used to some extent is to inventory all goods at the sale price, and then deduct a percentage mark-up figure based on the relation of cost of goods to sales as shown by the ledger, to reduce the inventory to a cost basis. Not as accurate as the other systems, this plan still has the virtue of simplicity to commend it, and as one successful merchant said, "What we

paid for a piece of goods doesn't determine its value to us at all. We may have paid too much, and then we are more interested in knowing what we can get for it."

Taking an inventory while business is going on, of course, involves organization of the records to prevent hopeless confusion. The inventory is preferably taken at a dull season. Some concerns do it on a holiday, or after hours, when the store is closed. Where it must be taken during working hours, a careful record of sales must be kept, to bring the count down to date as of a single date for the whole statement.

The chain stores have reduced inventoring to a system. Each store arranges its stocks of groceries, canned goods, and other commodities, according to a standard pattern used by all, and the auditor coming in for the periodical check-up simply counts the number of open spaces and records this on a standard form. The whole audit is done in an hour or two, after closing time.

Delivery of goods is also one of the problems of merchandise material-handling. A perhaps sufficient reference to delivery methods was made in the description of retail-store procedure in Chapter II.

BUYING FOR PRODUCTION

Here the buying is usually quite definitely centralized. Somewhat less discretion is also left to the purchasing agent, the exact degree of his authority to buy without authorization, varying with various situations, and for reasons historically connected with the development of the particular institution. Even with these restrictions the position is usually worthy of a strong man. It is not uncommon in the large organization to find the purchasing agent given the title of vice-president, while in most organizations he reports direct to the chief executive or general manager.

In any organization in which production control has been effectively established, the purchasing agent is not normally

left any discretion as to the quantities of production materials to be bought. The planning department or its equivalent will have worked out a definite production schedule which automatically calls for certain quantities, to be delivered at certain times. The purchasing agent might be aware of conditions, such as a rising or falling market, imminent uncertainties of supply, and other factors which would make advisable a modification of the production program, and in such cases would, of course, confer with the production department and the general manager, but the responsibility of specifying quantities rests primarily on the production department. Similarly with specifications as to quality and description. Here, again, the advice of the purchasing agent will be listened to with respect, but the actual specifications will be the work of the engineering department or its equivalent.

There is left, then, to the purchasing agent the responsibility for selecting sources of supply reliable as to delivery, quality, and financial capacity to perform the contract, and the responsibility for seeing that the materials ordered actually reach the plant on time.

THE ROUTINE OF PURCHASING

The initial act in purchasing, depending on conditions and the amount at stake, may range from a simple verbal telephone order with subsequent confirmation, to the advertising for bids by publication, calling for filing of full specifications. Usually a written purchase order is required in every case, being sent as a confirmation if the telephone is used. A typical simple form is given in Figure 30.

On the back or at the bottom of the order are frequently put conditions relating to charges to be made for packing, substitution or alteration of quantities, protection against patent infringement, and so forth. The order is usually written in three or more copies, the original going to the vendor, a duplicate being retained by the purchasing agent,

Order Number 681		
PURCHASE ORDER from SMITH & BROWN		
To _____	New York _____ 19____	
Please Ship the Following Material		
Quantity	Description and Pattern	Price
Date Wanted _____ Ship Via _____ Signed Smith & Brown Mark this order number on each package. By _____ Purchasing Agent		

Figure 30: Illustration of a typical simple form of purchase order.

and duplicates supplied as needed to the original requisitioner of the goods, to the receiving department, and to the accounting department.

A systematic follow-up of vendors may be necessary to secure prompt shipment, and where this is the case one or more follow-up men may be employed, whose duty it is to write or telephone to the vendor promptly in case promises are not kept, or even to visit the vendor's plant, and bring pressure to bear to secure delivery.

When the goods are shipped, the vendor usually mails an invoice, together with the bill of lading or express receipt, to the purchaser. This invoice will be checked with the purchase order for correctness of items, then held for check with the report of the receiving and inspection departments. It will then be certified for payment. All this must be done promptly, to insure receiving the cash discount.

PURCHASING PROCEDURE

Several methods are used in buying. Probably the bulk of the purchases made by the average firm are made through established channels. As the need first develops for buying any particular kind of merchandise or material, the purchasing department investigates the possible sources of supply of the article, calls in salesmen or sends for catalogs or attends trade exhibitions, checks prices, secures samples and tests them with the aid of the engineering or production departments. A trial lot is ordered from the most promising source of supply or perhaps from several suppliers simultaneously. If the tentative order is satisfactorily handled, it will be followed by repeat orders, and after a period during which there is a chance to test the wearing qualities of the vendor as a business concern, and of his wares in the hands of users, further orders will be placed as a matter of course except for a check on price.

There are companies which make it a practice continually to shop around, buying now here, now there, to secure some small fraction of price advantage. In the case of certain houses, this policy is the basis of the success of the firm, which secures business on a price basis and excels in its ability to discover surplus stocks which must be sold at a sacrifice, bankrupt sales, and similar bargains. Similarly with thoroughly standardized materials such as steel, if rolled by any one of a large number of first-class producers, it may pay to buy where the price is lowest. The policy of shopping around is also profitably followed by very large buyers, who may absorb the whole output of two or three producers, and who often follow a policy of keeping several competing suppliers on the list and swinging the bulk of sales now one way, now another, as the various suppliers can be induced to make concessions to secure larger orders.

But in general, once a satisfactory source of supply is found, except for cases such as those noted, it pays to stick to one source of supply. An adequate investigation of a

new material involves a good deal of time and expense. There is always the danger that with a change of supply there will be differences in quality, interfering with uniformity of product even where the quality is as good. Thus a firm which had been having its stationery printed by one house, might change printers. The probabilities are that there would be slight changes in shades of ink or paper, style of type or individual treatment of type composition, which would appreciably modify the individuality and uniformity of the impression produced by the printing, and associated by the customer with the individuality of the house.

Another reason for a policy of maintaining permanent relations with satisfactory vendors is the value of a good-will, reciprocal to the usual merchandising good-will. There are numerous occasions where a slight difference in the extent to which a vendor is willing to go in taking care of a customer, may make a substantial difference in profits. Willingness to handle special or accommodation orders, rush shipments in emergencies, credit accommodations, dependable supplying in times of shortage, protection against a falling market, and many similar cases illustrate situations in which the steady customer fares best. E. M. Skinner cites the flowers sent to a sick friend as an illustration of the disadvantage of the transient in buying. They are bought by a man who has never patronized this florist before and probably never will again; they are sent to another non-customer where there is a strong chance that the buyer will never see them. Small wonder that some of the weaker brethren take the occasion to get rid of the stale goods in their refrigerators.

While there are advantages in steady buying, it does not necessarily follow that buying should be limited to one firm. Where the volume is small, better results are apt to be secured by concentrating purchases and making the business worth while to one vendor. Yet even here, and more so in the case of heavier purchases, it is good to have two strings to one's bow, to give at least a small part of the

business to another vendor. The buyer is thus more sure of keeping in touch with market tendencies, since one vendor may hold up his price for some time after the market as a whole has sagged. He is also protected to a degree against emergencies to the first vendor, since he has another who is familiar with his requirements. It happened to an automobile motor manufacturer, very shortly after relations had been established with a second manufacturer of drop forgings, that the plant of the first vendor was totally destroyed by fire, and with it all the special tools and dies used by this factory in making the automobile company's product. Had there not been a second manufacturer equipped to do the work, weeks or months might have elapsed during which the buyer would have been without a vital part of his product. A part of the admirable preparedness program of the United States Army, is the placing, with a large number of manufacturers, of educational orders for one or a few of some military material necessary for national defense, the manufacturer being paid enough for the small lot to compensate him for the cost of getting the article into production. In this way a great deal of time would be saved if material were wanted in an emergency.

QUANTITIES TO PURCHASE

Deciding the question of the quantities to purchase is an important executive function, since the amount of investment in the inventory and the losses through obsolescence and market changes are large if quantities are not intelligently controlled.

The buyer of finished merchandise frequently has on his hands a difficult problem in making this decision. His sales will be heavily affected by changes in business conditions, hence he must follow closely the progression of the business cycle, and must be able to pick out from the market reports those factors of special significance in his particular case. Where the problem is complicated by style factors, it

becomes truly a distressing one. Overnight the ladies may abandon shoe-top-length skirts for a length just enough greater or less to put the merchant's stock on the sacrifice-sale counter. And there they must go inexorably with all the other bad guesses, if the merchant is to avoid being saddled with an inventory as dead as the first Pharaoh. In the larger stores these style changes are the first concern of the buyer, special people often being employed whose sole duty is that of studying fashion tendencies. The attempt is constantly being made, and, of course, with a measure of success, to control styles. Models will be decided upon and a vigorous campaign of publicity, by display, fashion articles, and so forth, launched to establish the style. But there is no predicting the fancy of the feminine public, and the merchant and manufacturer will probably continue for many years to add the losses from style changes, to their selling costs.

The logical answer to these uncertainties has been a changed method of doing business, made possible also by better and quicker communication and transportation. The merchandise buyer of a past generation came to market once or twice a year and placed large orders. Today he makes frequent trips to market, uses the mails and telephone often, and places small orders at frequent intervals rather than large orders, thus at one stroke reducing his inventory and his risk of style changes. And manufacturers, finding that a steady stream of small orders is better and sounder business than spectacular carload sales, are cautioning their salesmen against overselling, and modifying their terms to correspond to the changed conditions. The manufacturer also, in lines subject to style changes, endeavors to protect himself by selling his goods before he manufactures them, as far as possible. It means a slight increase in production cost, more than offset by the avoidance of losses on sacrifice season-end sales and losses on downright unsalable goods.

There is a point, of course, at which the increased clerical

or manufacturing expense of handling a small order, the higher price for small quantities, the less-than-carload freight rate, eat up any possible saving in risk, storage, interest, and insurance which may be secured by small orders. It is the responsibility of the man who decides on the stock limits, to ascertain the point of greatest net economy.

The question of speculative buying, in anticipation of rising prices and excess of current needs, often comes up. While sometimes profitable, it should be recognized that except for coverage against fairly obvious market changes, speculation is a separate business, which it may or may not be advisable to dabble in.

SOURCES OF SUPPLY

The purchasing agent has an exceptional opportunity to contribute to the success of his firm. If he is other than a "rubber stamp" type of individual, he will be in contact with all the various operating and design departments and familiar with their requirements. His office is also receiving a constant stream of valuable information from outside. It may be some consolation to prospective salesmen to know that an informed purchasing agent practically never refuses a salesman a chance to at least start telling his story and usually gives him all the necessary time to present it, if he really has something of interest to say. In this way the buyer's attention is brought to new tools, new processes, improvements of various kinds. He should act as a clearing-house for this information, putting the salesman in direct touch with the interested official in the plant, or presenting the claims of the new article to the latter.

Part of the P. A.'s stock in trade is his knowledge of markets. To systematically inform himself on all possible sources of supply, he usually keeps an extensive file of catalogs and directories to which he may turn. An additional file may be kept of supplies, classified by commodity, with notes as to rating and experience of each supplier.

Price information is kept up to date by following the trade papers, by securing direct quotation, and by following the gossip, friendly tips, newspaper reports, and other more or less casual sources of information which sometimes give a hint of changes that might otherwise be overlooked.

BUYING SUPPLIES

In every organization there are certain classes of supplies the buying of which constitutes a minor purchasing problem. Thus the buying of supplies of stationery, advertising, and printing are problems in most businesses. This buying may be done by a division of the central purchasing department, but is often left to the office manager, advertising manager, or appropriate executive. In a large business there is often provided a separate clerical methods department, which standardizes and supplies the stationery for all departments.

TRAFFIC

In these days of high freight rates, quite a substantial saving may be made to a firm by a traffic man sufficiently familiar with the classifications and requirements of the railroads to see that the shipments are properly packed and described. The traffic man also traces delayed shipments, routes shipments, and handles freight claims. He may serve either sales or purchasing department, or both, as may be needed. In point of authority he would probably be most commonly found attached to the sales department, but is also at times associated with the purchasing agent or reports direct to the general manager.

STORAGE OF MATERIALS

The care of materials after purchase makes less demands on executive capacity than does the buying, but is hardly less important. In the merchandising establishment the

department head is usually responsible for the physical protection and preservation of his stock, his efforts being supplemented as necessary by the general janitor, watchmen, and detective services of the store.

In the case of manufacturing, a separate stores department is the usual agency created for this duty. Itself a centralized functional department under one chief storekeeper, it may have one or many depots or branch storerooms situated as may be convenient in various parts of the works. Access to such storerooms is usually strictly limited; material is given out only on written requisition signed by the recipient.

ACCOUNTING FOR MATERIALS

In all classes of storekeeping it is necessary, for control purposes and to fix responsibility for theft or loss, to preserve some sort of record of the amounts on hand. The traditional method of ascertaining quantities on hand, especially for the purpose of determining financial condition, was the periodical inventory. The plant or store was shut down for a period, and inventory crews, trained as well as might be for the occasion, were turned to in force and counted the goods. This record alone, while sufficient perhaps in simple cases, is inaccurate, intermittent, and costly. It has been largely supplemented in recent years by a perpetual inventory. A typical stock record sheet is shown in Figure 31.

An inventory is usually kept, in manufacturing, of the physical quantities of each separate item. In addition to this, an inventory in money terms is frequently carried, the amounts in dollars (on the basis of cost or purchase price) being debited or credited by general classes of materials, as receipts or issues are made.

All receipts and disbursements of material are recorded on written orders or receipts, and the balance-of-stores ledger is posted from the records. Periodically a physical in-

[illegible]

Figure 31: Illustration of a typical stock record sheet.

ventory is taken as a check on the accuracy of the book inventory. In addition to the actual receipts and disbursements of stock, columns may be added to the ledger for the record of material set aside or applied to orders to be filled in the future, a "balance available" being shown in a separate column by subtraction of orders from the physical "balance on hand."

OTHER STOREKEEPING PROBLEMS

The problem of *arrangement* is important, not only because of the value of neatness and orderliness in stimulating accuracy and care, but because it is an easy thing for materials to be lost among the thousands of items. One large company keeps one or two men busy all the time, hunting, sometimes for days at a time, for items which occasionally go astray. Probably the best system for locating materials is to number all bins and storage spaces and keep a card index classified by pattern number or symbol, showing the location of each part.

It is usually necessary to work out some sort of *symbol system* for quick and accurate identification of items. The

mnemonic system is often used. The articles to be symbolized are divided into classes and subclasses, on the basis of product or of kind of material, and letters, suggestive of the name of the class, are combined into a symbol, on the order of the Dewey decimal system of symbolizing books, used in all libraries. For example, in one widely used system of mnemonic classification, DDC₁₀ would indicate size 10 of countersink drills, sub-class D, general tool class D (drills and boring tools).

ETHICS IN MATERIAL HANDLING

The whole field of purchasing and supply of materials offers peculiar temptations. In many concerns the accounting for materials is much looser than the money accounting and thefts are consequently harder to detect. Particularly in the case of the purchasing agent, a high degree of discrimination and high standards of ethics are essential. Should he accept presents from salesmen, and if so, where should he draw the line between a cigar, a box of cigars, a gold watch, and the taking of money for his favors? Suppose he has placed an order and the market price declines. Is he justified in canceling? Suppose a salesman asks to see a competitor's bid, is the purchasing agent justified in exposing it or hinting as to the price? How far should he carry the jockeying of one salesman against another for the best price? Dinsmore¹ gives some concrete problems which interestingly illustrate the situations which confront the purchasing agent in practice.

The work of this department is largely what its personnel makes it. Just as we distinguish between salesmen and order-takers, so we may distinguish between purchasing agents. On the one hand, is the trained and intelligent buyer alert to new developments, quick to call to the attention of the production department any new process or better material which promises a saving, broad-minded and capable of

¹Dinsmore, J. C., *Purchasing*, Prentice-Hall, Inc.

taking the long-time, executive view of his work. Such a man may save his company millions by his knowledge of markets and materials, and by his judicious selection and careful follow-up of vendors chosen for reliability of service and quality. On the other hand, we have the buyer who measures his ability solely in terms of price, whose highest idea of business acumen is to wring some microscopic concession in the way of a discount or freight allowance from an already disgusted salesman, who overstocks his firm for years in his effort to take advantage of a bargain, who is forever trying new vendors and going through the inconveniences and uncertainties, incident to establishing new sources of supply.

XXIV

THE OFFICE

Office work and "overhead." Functionalizing the control of clerical work. Centralization. Layout and appointments of the office. The work of the office. Meeting the public. Correspondence. Handling the mail. Intraplant communication. Forms. Computation. Filing. Indexing the files. Office machinery. The standard desk. Other office equipment. The office personnel. Planning in the office.

THE modern office is the result of an application of the principle of functionalization to the transaction of business. The aversion of the old type of manager to "increasing the overhead" is traditional and there were surprisingly few office workers in the old-style business. A bookkeeper, timekeeper, and stenographer or two were for years the sole office force outside of two or three executives, for a furniture factory employing some hundreds of men and having an annual output of nearly a million dollars.

The old-time manager is justified in some respects. Functionalization means the division of work among people on the basis of an intelligent adaptation of the work to the special capacity of the worker. Since the organization does not function unless all or most of its members are at work, a large functional organization is inflexible in dull times and it is hard to get the work done without employing a disproportionate force. There is also the danger, always creeping in, of adding new details, doing unnecessary work, hiring additional employees who are retained a little longer than is needed or may become fixtures.

But the true criterion of the value of clerical work is not the fact of its being "overhead," but the question of its being useful overhead. The engineers long ago discovered that it was cheaper to build a bridge first on paper than to

"save overhead" and build it on the plan of trial and error. One distinguishing characteristic of modern business is the extent to which the planning and performance are separated, with resultant greater output per unit, both by the workman and the clerk. The general tendency to require a more accurate control of operations and the increase in the size of establishments have multiplied the army of clerks, until today Leffingwell¹ estimates that over 10% of the total employees in business may be classified as clerical. A number of large businesses have grown up in which the main body of workers is clerical. The railways and express companies, the government services, the banks, the insurance companies, the publishers, mail-order houses, general offices of large organizations, wholesale and retail merchandisers, and factories are all large employers of clerical labor. Because of the increasing importance and volume of the control function in business, office management has taken on the status of a distinct profession, and the office manager with his often several thousand subordinates may have a responsibility comparable to that of the superintendent of a large factory. The office manager is responsible for the clerical, as distinguished from the executive and administrative, work of the organization.

FUNCTIONALIZING THE CONTROL OF CLERICAL WORK

In the small-sized office each executive usually supervises his own clerical work, hiring the few bookkeepers, clerks, and stenographers he may need and directing their work. When he finds this supervision taking too much of his time, the next step is to appoint one of the clerical force, selected for his responsibility, to take charge of the clerical details as chief clerk. In such an organization the office is often nothing more than an aggregation of such independent clerical services, each with its desk for the department head

¹ Leffingwell, W. H., *Office Management*, A. W. Shaw Company, Chicago, p. 4.

who, however, gives his attention only at intervals to the office work, and with its chief clerk or corresponding official who runs the department office for his chief.

The next step is centralizing, dividing off the clerical service as a whole into a separate unit whose services are available on call to the other executives. In this, the modern type of office, various executives, buyers, department managers, may be provided with desks or private offices, being in, but not of, the office, and not subject to the control of the office manager. The office, properly speaking, consists of the group of clerical employees and their supervisors and equipment. In a large business this office may be virtually a factory, often employing two or three thousand people, and engaged in the quantity production of records and services. The office is subject to methods of planning, control, standardization, and quantity production methods, strikingly similar to those in use in the factory.

CENTRALIZATION

In order to obtain full advantage of the functional division of duties, it is important that the work be brought to one point in a volume sufficient to permit of subdivision and quantity production. This step of separating the clerical services and of putting them into a central department means that when an executive (with certain exceptions), or a correspondent, wishes to dictate a letter, to have a statistical report made up, or another service performed, he calls on the office and is assigned a specialist, such as a typist or comptometer operator, or uses a dictaphone and has his letters transcribed in a transcribing department. Centralization applies also to the filing of records. It means that with few exceptions, documents are filed, not in private departmental files, but in a central file. This system has very evident advantages, not only of functionalization as mentioned, but in securing uniformity of practice in making records, writing letters, and so forth, on the part of the

whole force. It has, as well, a disadvantage, in increasing to some extent the time required to get things done.

In the case of important executives, whose time is worth many times that of any member of the office stenographic force, there is often an economy in furnishing to the executive, in addition to the general stenographic service, a secretary, often a highly paid and competent man or woman, who relieves the executive of much of the detail of making and keeping appointments, writing less important letters, arranging transportation, reading and sorting and disposing of mail (referring important items to the executive), preparing material for reports, and even with especially busy men relieving them of many purely personal duties, such as paying bills, keeping personal accounts, and so forth.

With exceptions such as those described, however, the centralized office has proved its economy and will be found extensively in the large businesses.

LAYOUT AND APPOINTMENTS OF THE OFFICE

This problem bears a close analogy to the corresponding factory problem. Location is the first point to consider. If the office is an incident to a factory or store, the main points are to see that it is housed in quarters adequate as to size and of convenient floor areas, well ventilated, well lighted, quiet, and adapted to office work. If the office is a separate unit, its location must be studied as a factory location would be, with reference to convenience to employees, to customers, and to others with whom business is done. Rental must be considered. It is better to get an office on one floor, rather than in a narrow building of many stories.

Ceilings of the office should be fairly high, windows high, light coming, if possible, from more than one side, and desks so arranged that each receives good daylight illumination. Walls and ceiling should be painted white or very light tan or cream. The ceiling should be made sound-absorbent by lining with special felt or sound-absorbent plaster. The

harder the material, the more noise is reflected back into the office. Hard plaster on cement is one of the undesirable materials from this standpoint. The floor should preferably be covered with linoleum, or rubber tile, which are silent and sound-absorbent, easy on the feet, easy to keep clean, and durable. Artificial illumination should be of the semidirect or indirect type. The former consists of a translucent bowl or shield which transmits part of the light, diffusing it and softening the glare, and reflects part to the ceiling. In indirect lighting all the light is reflected and diffused by reflection downward. The indirect type is more expensive in current and requires more attention to keep clean and at full efficiency.

Drinking fountains, coat rooms or lockers, washrooms, clocks, are other details which must be provided. Heating and ventilation are important. The ideal office temperature is 68°. Efficiency drops rapidly, below 60° or above 75°.

The trend today is toward a large, open general office, in which desks are sufficiently separated and the acoustic properties are such that ordinary conversation, typing, and so forth, blend into an indistinguishable monotone that is not disturbing. Noisy machinery, such as mimeographs, tabulating machinery, or a battery of typewriters, is better handled in special rooms, and higher executives or those requiring privacy for interviews are housed in separate offices. Where partitions are necessary, they may be of the unit sectional type, which comes in ready-made units and can be taken down and put up again as desired.

The layout of desks will be made in exactly the same way as for the factory. The same straight-line flow of work is aimed at; indeed, many large offices have a conveyer moving between double rows of desks with shunts arranged so that papers are automatically delivered at the right desk. The object of saving travel in the office is not so much the cost of moving the light material, as it is the avoidance of traffic and of the confusion that comes when many people are moving about. Those desks whose occupants are mov-

ing around frequently or with frequent visitors, as follow-up men in the factory, should be placed near the door or out of the general line of travel. An information clerk should be placed conspicuously at the public entrance, to direct visitors to the right officials, to avoid wasting the time of the office, and to courteously turn away those who have no business in the office. Except in very large offices, the information clerk can also act as switchboard operator.

The template plan is used in office layout as in factory layout, desks and working spaces, drawn to scale and cut out of paper, being arranged and rearranged to secure the best flow of work. Colored strings may be used to show the movement of orders. A procedure diagram such as that shown in Figure 4, page 34, is of great assistance in planning the office.

THE WORK OF THE OFFICE

The varied duties of the general office may be divided into three types. The principal type, in point of volume and importance, is *communication*. Interviews and contact with the public, correspondence, dictation, mailing and messenger service, intraplant communication and records, and telephone service are of this type. The second function is *statistical* work, and includes some types of accounting work and the work of the adding and tabulating machine operators, and so forth. Bookkeeping and accounting as a whole may be under the supervision of the office manager, but, for the most part, are more often controlled by a separate accounting department. A third duty is *filing and preservation of records*.

MEETING THE PUBLIC

Salesmen and sales clerks, and the service clerks of the general office, are usually the only important source of personal contact of the house with the general public on which it depends for business, and the manner in which this con-

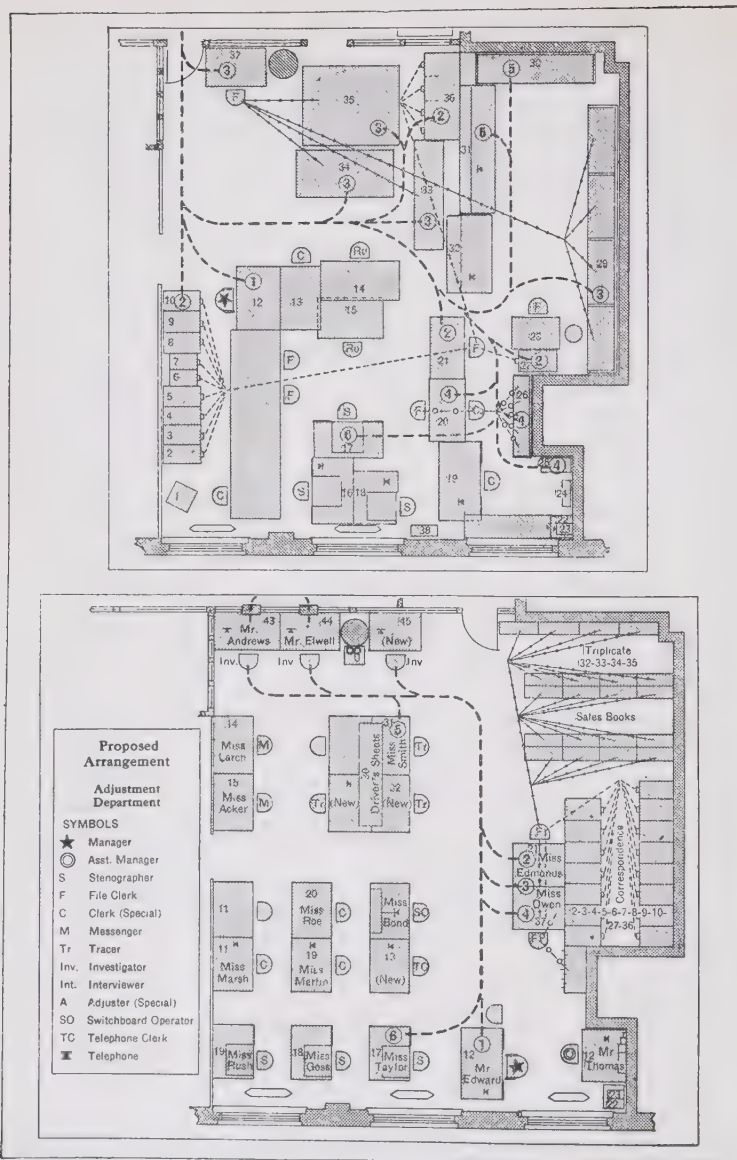


Figure 32: Reorganization of an office layout.

tact is made has much to do with the public estimate of the house. Salesmen have their own special requirements and training, to be discussed in a later chapter. The public also comes in contact with the house personally or over the telephone, through the telephone operator, the adjustment clerk, the information clerk, and various other minor service officials. The requirements for such contact functionaries are unfailing courtesy, patience with an often unreasonable public, good hearing and mental alertness, good manners, and quiet and pleasant appearance. Where the volume of work is large, an analysis should be made of all the common types of inquiry, business, complaint, and so forth, and the operator should be trained in answering these questions. A good example of such training is the memorizing, by operators in the telephone exchanges, of a set of phrases, designed to meet any ordinary situation. The operator is prohibited from using any other than the set phrases, thus avoiding impertinence or irritation, and if a call comes in for which the standard phrase does not suffice, the call is switched to a supervisor. It is, of course, only in routine work done by employees of the lower grades that the operator is confined to the use of set phrases. With employees of higher grade, such as salesmen, it is found advisable to have the employee memorize the useful phrases, as a background only for an approach in which he uses his own initiative.

CORRESPONDENCE

The correspondent also meets the public, by mail, and has a part in creating an impression of the house. In any large organization, doing business with numerous customers, there is a volume of correspondence, inquiries, complaints, requests for catalogs, and so on, which is classified and turned over to one of various classes of correspondents. The same rules of courtesy, patience, pleasantness, dignity without formality, are useful in correspondence as in the personal interview.

Much correspondence can be taken care of by the use of forms, and where this is impossible, it is in many cases possible to use the form-paragraph system. Using this system, the various common situations raised by the customer's letter, by collection correspondence, and so forth, are analyzed and listed. Files of previous correspondence are then gone over and particularly effective paragraphs are picked out. These paragraphs are polished up and rewritten, symbolized and indexed and bound in a loose-leaf book under topic headings. A letter may then be dictated simply by listing paragraph numbers, with such additional special matter as may be needed.

In addition to the book of forms, many offices use a style manual, which specifies the form, spacing, and so forth, of the letter, and contains rules for salutations, lists of common errors or misspellings, and general suggestions as to style and courtesy, including such rules as briefness. Where the letter is entirely standard except name and address, there are automatic typewriters, controlled by a perforated ribbon like a player-piano roll, which will stop at the proper point for fill-ins and greatly increase output.

The dictaphone is a frequently used and very convenient method of dictation. The wax cylinders are transcribed by an operator who listens to the dictaphone through special ear-pieces, regulating the speed to suit her own work, stopping or going back if necessary. The cylinder is shaved clean and used repeatedly. The special advantage is convenience. The correspondent dictates when he pleases, after hours, at home, or wherever is convenient. There is no peak demand for typists and the work of transcribing can be spread uniformly over the day. Some practice is needed to dictate clearly and to handle punctuation.

HANDLING THE MAIL,

One of the functions of the general office is to receive, open, and distribute incoming mail. With many types of

concerns the work of the day cannot start until the mail is distributed; therefore, this distribution must be well organized, to proceed promptly and with precision. It may be necessary to have this department start half an hour earlier than the rest of the office, so that the mail is already distributed and ready when the force arrives. The procedure in opening mail is first a preliminary sorting, laying aside catalogs, second-class matter, circulars, and so forth, for later disposal. Envelopes may be slit, or if many in number, run through a special machine that cuts off a narrow edge. The letters are opened by sorters who take out money as described in Chapter II, glance at the letter to see whether it is an order, inquiry, or what, and sort the mail into bundles for the various officials.

Outgoing mail is also often handled by this department, which seals and stamps envelopes, wraps packages, provides for special delivery or registry, and handles the mailing and addressing of circulars. Addressing is done in a separate department. An addressing machine using stenciled addresses is usually used, with lists classified so that they may be quickly sorted for any purpose. Quite a part of the work of the addressing department is in keeping these lists up to date.

INTRAPLANT COMMUNICATION

There is a large amount of communication necessary between members of the organization in carrying on the business, and the office is responsible for facilitating much of this. The first question we will take up is the physical means of communication. Direct verbal communication is the simplest and most natural method of disposing of much transient business, and this may be handled by interview or by telephone. The use of the local telephone system should be encouraged, as it saves much confusion, running around, and waste of time. One problem in the matter of facilitating personal conference is that of locating important executives, who may be half a mile away in

the plant, no one knows just where. Magnavox announcers, bell, or light signal systems using a code, serve the purpose of locating men.

Verbal communication is inadequate in many cases, however, and a written memorandum is necessary. Where orders must be given for which responsibility is clearly fixed, or where the order involves costs, which should be a matter of record, a form or memorandum should be used to prevent later confusion through failing memories or lack of evidence. This is true also of telephone communications, for which a memo pad should be provided or a transcript of the message dictated at once where it is important. Important telephone messages are usually confirmed by letter.

Where the communication is written, delivery is arranged for in a variety of ways. In many offices it used to be the custom to have the office boy deliver the messages one at a time. The modern system runs on the principle of mail delivery. Each person sending or receiving mail has an "in" and an "out" basket, and puts outgoing mail in the "out" basket, where it is picked up by the mail boy, sorted, and delivered to the proper "in" basket or tray on the next man's desk.

The telautograph is used for mechanically duplicating handwriting simultaneously at two or more points. Pneumatic tube and cash conveyer systems are also used.

FORMS

A form is a printed blank used as a standardized guide for the recording of information or communication. Because forms are used in all office work, their proper design is worth some thought. Amazing faults appear in forms designed by inexperienced persons—omission of vital information, awkward arrangement of information, vagueness, wrong proportioning of space, undue expense in printing or paper.

In designing a form, it is well to start with an analysis of just what is to be done. A typical transaction may be written out in longhand and checked with other records, to make sure that all the facts are there. The next point is arrangement. A form usually consists of two or of three parts for convenience. The first may be called the *caption*, and contains the general identifying information, such as name and address, or name and symbol of part or account, location, order number, and so on. Where the form is a record for filing, the significant filing item, order number, pattern number, or other symbol should preferably be in the most conspicuous and convenient place, often the upper right-hand corner. The second part of the form is the *body*, in which provision is made for recording the information, for filling in the blanks in a form letter, or making entries in a purchase order or stock record. Vertical ruling with appropriate headings so that items will be filled in the same order, is often a help. The third part of the form, not always necessary, may be called the *signature*, containing spaces for approval, record of action, or other notations.

The purpose of the printing is to act as a guide so that information is entered in uniform, condensed form and so that nothing is left out. The language used in the form should, therefore, be sufficiently explicit to make sense to any one in the business, not alone the particular users of the form.

Details of mechanical design must be considered. Standard-sized paper should be used if possible, some of the common sizes being 3x5, 4x6, 5x8, 8½x11, 8½x14, 11x17. The paper should be chosen with attention both to service and economy. Rag stock bond or ledger paper should be used for permanent records, cheaper stock for temporary ones. Stiff stock is often necessary for forms to be used in the shop by workmen. Color is often used in distinguishing copies for various departments. Printing details, as to type sizes, ruling, method of reproduction, and other details, demand study.

COMPUTATION

The statistical department, sometimes headed in a large business by a statistician, furnishes a service for the analysis of statistical data and preparation of statistical reports, and also for the more routine computations which must be made in volume in the business. Figuring discounts and interest, prorating expenses, adding lists of items, and a variety of other work is done by this department. Many large concerns do their bookkeeping by posting-machines. Customers', stock, expense, and other ledgers, bank depositors' accounts, are posted in this way. Where it is necessary to write words as well as figures, typewriters with adding attachments are used, being developed in a great variety of forms. Where numbers and key symbols only are required, the various types of adding machines, specially adapted to this work, with racks to hold posted and unposted sheets, are used. Calculating machines are used for multiplying and dividing. Interest tables, and other compiled tables, and slide rules are also of value.

The Hollerith and similar tabulating machines are extensively used where there is a large volume of cross-tabulating to be done on any class of data. Sales records may be made, for example, the pattern number, salesman and territory number, amount sold, date, and other data, being indicated by a system of punched holes corresponding to definite numerical digits. A first machine sorts the cards, separating all of a certain territory or salesman number, for example. A second machine mechanically adds any selected column of figures, such as expense, for each territory, salesman, or other classification. Such machines do not represent an economy where figures are added only once, but where there are many classifications and cross-tabulations used, they save expense and gain in accuracy. They are useful, for example, with time cards or sales records, where many classifications are of interest; less useful with material requisitions.

FILING

The art of filing might be divided into two parts: the first, the mechanics of the filing equipment and method; the second, the system of classification. Filing itself is not a hard job under any system; it is the subsequent location of the filed paper which gives concern if the system is not right. Some files are virtually graveyards for information.

The fact of centralized filing has been touched upon. There are several rules to be observed in good filing, corresponding with those which would govern a toolroom, store-room, or other depository. One is that all papers, after a reasonable but uniform interval, *must* be sent to the file. Another is that no one shall have direct access to the file except the file clerks. It is usually best to put the files behind a counter or in other ways shut them off from the rest of the office. Another rule is that whenever a paper is taken out of the file, it must be charged out on a card as a library book would be charged. These rules apply, of course, primarily in the large business. In a small, compact office there is not the need for the same formality, although even here only the filing clerk should put the papers into the file.

What to file is the next question. A great many forms, such as time-cards, are of current importance only. After they are posted to cost-sheet and pay-roll, it is necessary to hold them only a reasonable time for check on error, before they are destroyed. Much correspondence is also of a transient nature, not worth cumbering the files with. It is a good plan to classify the various material, some of it, such as deeds, patents, registration of trade-marks or copyrights, important contracts, and so forth, to be permanently filed in a vault or safe. Other papers to be preserved three years, others one year, and so on. Periodically, the files will be gone through and dead matter taken out for transfer or destruction. Much material can be held for a period in an active file, then stored in a permanent file.

There are various filing devices on the office-equipment market. For such papers as accounts and invoices, loose-leaf binders, well bound to stand wear, are used, with cheaper transfer binders for the older records. The vertical file, with compartments or dividers to keep papers upright, is the usual method for current filing of correspondence and other unpunched papers. The standard filing cabinet is of wood or metal, with one to several drawers sliding on roller bearings, locked, and made in standard unit sections which may be added to as desired.

For information frequently referred to, the visible index is very convenient. In this type of file, used for card records instead of for correspondence and papers, the cards bearing the information are attached by some form of detachable hinged joint to a panel, the card lying with a strip along the bottom exposed, shingle fashion. The name or filing description is written on this edge, which may be protected by transparent celluloid. By raising the hinged cards above it, the information on the upper part of the card is instantly available. For posting, these visible indexes do not possess a marked advantage over loose-leaf ledgers, but they are invaluable where records must be frequently or quickly referred to. The credit information about retail customers is filed in this way. A number of banks or racks of cards may be pivoted on a vertical spindle like leaves of a book, putting a list of thousands of names at the finger tips of the credit clerk or other person. These files are also made in small sizes, in a flat folder to lie on a desk.

It is possible greatly to overdo filing, religiously filing everything that comes into the office. The disposal of a paper is best made by the man who first reads it, who should at that time decide whether it is worth filing and, if so, how. In one office in which the writer has worked there was a requirement, because of Interstate Commerce Commission rules, that no paper should be destroyed. One of the standing office jokes was to designate worthless papers for the "Murphy" file. Murphy was the name by which,

for some reason, the good-natured Italian janitor with an unpronounceable name was called around the office, and Murphy's file was the waste-basket, which he emptied every morning. It is a good file, used with discretion.

INDEXING THE FILES

Our old rule as to the choice of a basis of classification applies to filing. That handle should be chosen for filing a paper, which is the one the mind will use in calling for the paper again. A number of systems are in use, and often, with frequently used lists, it may be necessary to use a cross-classification; the name, for example, being listed alphabetically with a geographical cross-reference file. Such cross-indexing, or course, complicates the task of keeping the files up to date.

For filing orders and invoices, a simple *numerical* system is often all that is necessary, since the most frequent reference to such files is likely to come from the customers' ledger, where the invoice number may be shown for each entry. The numerical index in this case is also approximately a chronological index, further facilitating location of papers, and making easy the disposal of obsolete material in the transfer files. The basis of indexing general correspondence, mailing lists, and so forth, is *alphabetical*. As the file becomes very large, it is necessary to resort to two-letter or three-letter subdivisions, and it becomes quite a task to memorize all the subdivisions. In this case what is known as the *alphabetical-numerical* system is used, the name being classified first by surname, then by given name. This reduces greatly the number of subdivisions, although it may lead to occasional misfiling, as where a woman uses both her maiden and her husband's name. The *geographical* system is used for many selling lists, where the list must be circularized or corresponded with on a territorial basis.

Many matters are not conveniently filed under the alphabetical system, since it is not the name but the subject which

is thought of when the paper is wanted. Thus in purchasing supplies and materials, filing under "air hoists," "asbestos," "asphalt," "automobiles," "batteries," "belting," "blowers," "boilers," and so on, would be more convenient than a file by dealer's name. For such material a *subject* index may be used. This is the most difficult system to construct effectively. Should the depreciation of steam-piping be looked for under "depreciation," "steam-piping," or "piping"? Liberal cross-indexing is advisable. It is also advisable to follow one of the well-recognized classifications such as the decimal classification, in mapping out the subject-headings.

OFFICE MACHINERY

Standardization is one of the keynotes of economical office management. In the standardization of equipment, this means selecting or developing the best device after careful study, sometimes of the motion-study type, and the uniform use of the adopted standard. This means economy in purchasing, replacement, and repair; a neater appearing office; and interchangeability and greater speed of operators.

THE STANDARD DESK

The desk is one of the most widely used office tools. Several types have been worked out, adapted to stenographic, clerical, executive, accounting, and other purposes. The desk should not be too large, 2½x4 feet being a useful size. Larger desks waste valuable space and encourage the accumulation of papers. Roll-top and double desks should be discarded. The top may be covered with linoleum, which gives a good writing surface, is non-reflecting, and easily kept clean. The division of drawer spaces should be carefully made. The width of the drawer should fit the standard paper size, and dividers should be conveniently spaced and removable. In and out desk mail trays have been men-

tioned. "Work organizers," simply small files with six or ten compartments made to lie flat on the desk, are convenient, as the various classes of unfinished correspondence, divided by kind or by immediacy or date of action, can be kept conveniently and out of the way in them.

OTHER OFFICE EQUIPMENT

There is a long list of equipment and machinery with which the office manager should be acquainted. A visit to one of the various business or office equipment shows held in the larger cities is a help in keeping up to date. Among copying processes may be mentioned the following: carbon-paper, with regular or flat-bed typewriters, mimeographing (duplication with a typewriter-cut stencil), hektographing (duplication with copying ink and an absorbent gelatin pad), multigraphing (duplication from a small special rotary press in which type is set up by hand), and various photographic methods such as blue-printing, photostat copying, and litho-printing.

Chairs, waste-baskets, telephone booths, check protectors, numbering machines, rubber stamps, and the various calculating machines should also be selected with care.

THE OFFICE PERSONNEL

The rules for personnel management which will be taken up in subsequent chapters, apply to office work as to other types. The same methods of careful selection, of employee record, of discipline and payment, hold good. Some special problems are raised, however. Office discipline raises many troublesome points of its own, and there are days, often the hot thundery days, when the office can be as vexatious as a noisy schoolroom. Many of the employees are, in fact, young people only a few years out of school. A certain tolerance for human frailties, combined with firmness in essentials, fairness and discrimination, ability to

teach and explain, experience, intelligence, ability to handle detail, and a personality of sufficient force to command respect of subordinates are characteristics of the ideal manager. Office rules should cover the vexatious details of every-day discipline, such as attendance and tardiness, talking, loitering, smoking, overtime, vacations, salary payments, use of the telephone, and personal calls. These rules may be mimeographed on loose-leaf sheets, and made part of a manual of procedure supplied to each employee.

There is the same advantage in measured wage payment for output in office work, as in selling or production, but the application of piece-rate or premium plans is more difficult because of the difficulty of inspection. One cannot afford to check every ledger posting, and while penalties may be imposed for errors, a system which puts a premium on hasty work is not advisable. Some classes of office work lend themselves well to payment on an output basis. Typing may be readily measured on a square inch, line, or letter basis, and many kinds of routine work such as addressing, multigraphing, and so forth, may be paid on a piece basis.

Nevertheless, much office work is best paid on a time basis, such as the monthly or weekly salary. The observation of the office manager is depended upon to suitably connect performance and reward, by a discriminating use of salary advances. Even for time work, standards of output should be set by time studies, and the efficiency of the individual performance measured by comparison with the standard.

In a large office some type of classification of jobs on a skill basis is almost imperative as a basis for fair salary payment. The following example, taken from a classification of the Civil Service of Canada prepared by Arthur Young and Company, illustrates a method of classification which may be used:

CLERK

DEFINITION OF CLASS:

To perform, under supervision, clerical work requiring skill,

previous experience, and familiarity with clerical methods; in some cases to supervise a small number of employees in the same or a lower rank; and to perform other related work as assigned.

Examples: opening, distributing, and sending out mail; compiling statistics; preparing requisitions; checking bills and invoices and so forth.

Qualifications: Primary school education; at least one year of experience; some knowledge of modern office practice.

Principal lines of promotion: From: junior clerk, junior clerk-bookkeeper, ... office appliance operator ,

To: senior clerk, senior post-office clerk.

Compensation: \$80, \$85, \$90, \$100, \$105.

Salary increases under such a plan should be made dependent primarily on efficiency but also on length of service, and should increase more rapidly at first, then gradually, not exceeding the maximum for a position. Further promotion should depend on mastery of more skilled or responsible work.

PLANNING IN THE OFFICE

Much of the work of the office is of routine or recurrent nature and can be planned. The work of the individual operator, particularly, can be laid out on a schedule or program. The total volume of work may also be estimated, on the basis of number of orders or pieces of mail handled, and provision made to increase or decrease the force correspondingly. Standards or budgets of expenditure can also be worked out to prevent waste of stationery and supplies.

MARKETING FUNCTIONS

The functions of marketing. Sorting, grading, and packaging. Grading. Storage. Transportation. Assembly. The mechanism of marketing. The market place. The fair. Trade exhibitions. Produce markets. The exchanges. Auctions. Development of new forms.

IN our economic order, based as it is on the exchange of specialized services, the problem of marketing is one which enters into every business. Marketing includes not only the direct process of sale, but the whole organization by which a connection is made between the original producer, anxious to dispose of his goods, and the ultimate consumer, who desires them. The whole ordered conduct of society is dependent on the efficient operation of the marketing system. Where it breaks down or is inadequate, famines may devastate one section of a country, as in India, while in a neighboring district food goes to waste. In this more extended sense of the word, seven functions or services may be distinguished as involved in marketing. They are:

1. Sorting, standardizing, branding goods, and putting them into packages or lots of convenient size;
2. Storage or change of the time-value of goods;
3. Transportation or change of their place-value;
4. Financing, the advancing of money to producer or consumer;
5. Assumption of risk, as by insurance or advance purchase;
6. Assembly, or collection of goods by the buyer in anticipation of the consumer's wants;
7. Demand-creation, persuasion and sale.¹

¹See also Clark, F. E., *Principles of Marketing*, Macmillan & Co., p. 11, for a discussion of the marketing functions.

SORTING, GRADING, AND PACKAGING

The importance in marketing, of sorting and grading is well illustrated in the case of canned goods. Tomatoes, green peas, corn, fish, and so forth, must in the main be cooked, processed, and canned within a few miles of the farm, to insure freshness. Usually a favorable producing district brings a canning factory, and this market tends in turn to specialize the district. Thus the plant of the H. J. Heinz Company at Holland, Michigan, to cite one example, has built up a large acreage of tomato farming in this locality, which is a favorable one because of soil and climatic conditions. The Heinz Company is an exception perhaps to the rule about to be stated, that because of the local nature of the supply, canning industries are usually small-scale businesses. The quality of the pick in a locality varies also from year to year, the best or Number 1 quality of one year perhaps hardly equaling the Number 2 grade of a more favorable season.

The large wholesaler, buying the product of many canneries in various parts of the country, is in a much better position by sampling and selecting to establish uniform grades, putting out the product from localities unfavorably affected, under cheaper brands. With the exception of a few large canners, such as the Heinz Company above mentioned, a majority of canned goods are for this reason put out under the wholesaler's brand rather than the maker's.

GRADING

The importance of grading and of uniformity of quality cannot be overemphasized. Advertising and good-will are based on the building up of confidence, not alone in the quality of an article, but that the quality will always be the same. One of the major services performed by the California Fruit Growers' Association was that of establishing fixed size and quality grades for the merchandise.

Grading removes the element of speculation from buying and thus enables the vendor to secure a better price for his goods. Grading makes it possible to sell by sample and description, without the need for personal inspection, and thus widens greatly the market for a commodity. The exchanges, for example, would be impossible without grading. It is regarded as so important that staple commodities be accurately and impartially graded, that the work is done in some states by heavily bonded state officials. Grading also standardizes the product and gives it a known value which makes it possible to use it as security for loans and for future sale transactions.

A good example of the effect of grading in raising values is found in the case of egg buying referred to.¹ Eggs are sorted by size and cleanness into fancy and common grades, by color into white and brown (each color appearing more attractive alone) and by freshness into certified grades for fancy trade, candled or tested grades, and common. The elimination of a few dirty eggs will increase the price of the lot much more than proportionally.

Raw materials do not in general come uniform in a state of nature, therefore grading is necessary with lumber, grains, live stock, milk, produce, fruit, minerals and raw metals, leather, wools, cottons and other textile raw materials, and many other materials. The products of manufacture can be held more uniform in most cases, yet even here it is profitable to sort out the slightly imperfect, which may be either destroyed, reprocessed, or sold as seconds.

Closely associated with grading and branding is the question of packaging. Packaging, for one thing, puts articles on the market in convenient-sized lots. The unit package in the case of wholesale trade is usually fixed partly by custom, partly by convenience of handling or use. Thus a sack or bundle usually runs in the neighborhood of 100 up to 150 pounds, a weight a man can lift. A barrel of 50

¹See also Weld, L. D. H., *The Marketing of Farm Products*, Macmillan & Co., p. 363.

gallons of liquid is about as large as a man can handle by rolling, or can up-end on a truck. The carload, boat-load, tank-load, bale, and other measures are units thus set by convenience of handling.

In retail packaging the unit of use prevails. As the country drifts toward urban living, with smaller rooms and houses and more accessible stores, the tendency is to package in smaller units. Apples used to be sold by the barrel. There is no apple cellar in most city homes today and cold storage is better than the cellar ever was, so apples are today sold by the pound. So with potatoes, fuel, cigars, crackers, needles, the unit is the convenient quantity for use.

Packaging, besides the advantage of protection of merchandise from handling, makes it possible effectively to brand the goods, and, therefore, to build up good-will for a brand. Soda crackers used to be sold in bulk. By packaging them the larger bakeries created a good-will much more effectively attached to their trade names. Had they advertised just crackers, instead of their distinctively packaged crackers, the advertising would have sold as many crackers for competitors as for them. Often it is very difficult to brand goods. The problem was solved for lumber by stamping the brand on the end of boards, or the lower face of flooring. Fruit is branded by paper wrappers which protect it; more lately by a stamp directly on the skin of the orange or other fruit.

STORAGE

Most of the products of nature are produced seasonally. The whole product of the sugar-beet factories is extracted in three or four months following the first frosts in late October. Wheat, potatoes, practically all farm crops mature in a short season. Demand also fluctuates, and without regard for supply. The heaviest demand for cut flowers is at Christmas, when, because of climatic conditions, light, and other factors, supply is at its lowest. Something is possible in the way of equalization of demand and supply.

Improvements in the technique of masonry and concrete work make it safe to go on with building on all except the very coldest days. Mother's day, with its custom of wearing a flower, was, with the backing and influence of the florists, set early in May when indoor cut flower production was at its peak and demand was beginning to fall off.

But in the main, where the product is sufficiently perishable, storage must be resorted to. The problem of storage involves the provision of facilities, often highly specialized, for the proper preservation of the material, and of attendants to care for it, record it, and provide access to it. The stores department, already discussed, performs this function for the manufacturer. As its name indicates, storage of convenient quantities at accessible points is one of the services of the retail store to the consumer.

A second problem of storage is finance, the carrying of the goods until sold. Suppose a manufacturer's capital turnover is three, and it is necessary for him at some seasons to store two months' output. Let alone the question of space needed, he would evidently have to tie up half his total capital in stock at that time, since in four months the output equals the amount of capital and a two months' output would absorb half the capital. Such an investment in stock is seldom possible without heavy borrowing. The only alternative is intermittent operation, always less economical because of wasteful use of equipment and disorganization of force, and sometimes absolutely impossible, as where seasons for securing raw materials and for selling them do not coincide.

The wholesaler who buys in advance of the season, the retailer who stocks up a little ahead, perhaps with the added inducement of a special discount, all help the producer to shift the load to some degree.

A third problem is that of risk, and here there is the risk of damage and the risk of price change. Methods of meeting these risks by insurance and by hedging were discussed in Chapter XVIII.

Public warehousing and storage today take care of a part of the physical problem. Cold storage for fruit, furs, eggs, butter, and other food and perishable products is today a well-organized and essential part of the marketing organism, absorbing the excess crops of fruit, eggs, and other commodities and equalizing the price the year through. Public warehouses are also found for grain, cotton, general merchandise, wool, tobacco, and other commodities. The warehouse not only provides physical storage and preservation, but may insure the product and furnish facilities for its display (as in the Bush Terminal warehouse in New York), and act as a depot for its redistribution (as where carloads are shipped, for local delivery on smaller orders). The warehouse may also offer sorting, labeling, and grading facilities. Often the warehouse is simply a large building favorably located with reference to shipping facilities, which rents space to tenants, which may be used either for storage or for assembling and light manufacturing. The warehouse company makes up package cars, furnishes elevator and transportation services, and similar special services, enabling a manufacturer or wholesaler to maintain distributing branches at a low cost.

The warehouse at times also assists in financing. Sometimes it loans directly on the goods. In any case it is, as some one has called it, a merchandise bank. The warehouse receipt, while not strictly negotiable paper, may be made negotiable, and is very commonly used as collateral for loans.

TRANSPORTATION

The business of transportation is of so specialized a nature that its description can hardly be attempted in this book. Physically, a railway system comprises, first, a terminal system of depots and switchtracks for receiving, assorting, and delivering merchandise. Second there is the road-bed or right of way over which the transport takes place. Securing a right of way practically invariably means

the exercise of the semipublic function of eminent domain, in purchasing property and of securing a franchise for operation across or on public highways, and so forth. Third, there is the rolling stock, cars and motor equipment, the signal system, the repair shops and roundhouses.

The management of the road is in charge of the usual general executives, with the principal departments of traffic, the commercial and rate-making end of the business, operation, or running the trains, and maintenance of way and structures.

A brief reference was made in Chapter IX to the basis on which railway rates are made. Legally the railway stands to the owner in the relation of bailee or receiver, being responsible for the safe delivery of the goods committed to its care, except for unavoidable catastrophes or "Acts of God," or for flaws inherent in the merchandise or traceable to the fault of the shipper.

The function of assumption of risk has already been discussed, and that of persuasion and sale will be given attention in a later chapter.

ASSEMBLY

The function of assembly is that of gathering together goods, in anticipation of the buyer's needs. Assembly may be distinguished from transportation in that the former is the process of estimating customers' needs, buying goods and having them ready when needed, while transportation is a means made use of by the assembler, in making the goods available for the anticipated need.

The merchant exercises a function of assembly in deciding to what market he shall send goods for sale, and in thus meeting the need of distant communities. Thus certain varieties and sizes of pears are favorites in New York, others in Cuba, others in various European markets, and the products of the California pear orchards are specialized and sorted, to meet the tastes of these respective markets.

Looked at from the standpoint of the final consumer, assembly involves the use of the whole chain of marketing agencies by which the goods needed for the consumer's various needs are made available for his use. For each of the intermediate agencies in this chain, however, there is need of a process of assembly.

Raw materials are commonly produced in small and scattered lots, of varying grades. Eggs, for example, are gathered by buyers who travel a regular route in country districts, calling on housewives and storekeepers, picking up eggs a few dozen at a time, and assembling them into larger shipments, perhaps carloads, for the wholesaler, baker, or other large user. Often the economy realized on carload shipment alone, in place of small-scale express or mail shipments, is sufficient to provide a living to the buyer. Fruit is bought, on the trees or picked, by the fruit buyer, grain is assembled by the country elevator, ore by the local smelter, in the same way.

There is also a need by the manufacturer for assembly, in securing the numerous articles which are used in quantities so small that it does not pay to bother with finding the original producer, testing quality, and buying direct. Belting, factory supplies and much machinery, hardware sundries, and many other articles are, therefore, assembled by jobbers and supply-houses who can afford to investigate the supplier and who often assure the quality of the product by giving it their own brand or trade name.

As the manufacturer needs a volume often larger than that of the single producer, so he also turns out a quantity too large for the ordinary consumer. The stream of materials which was concentrated fan-like at his receiving platform by country buyer and intermediate jobber, must again diverge fan-like, and be recombined into new combinations with other products, by the wholesaler and retailer.

A few years ago, there was a great agitation directed toward "cutting out the middleman" and dealing direct from producer to consumer. In certain cases this may be

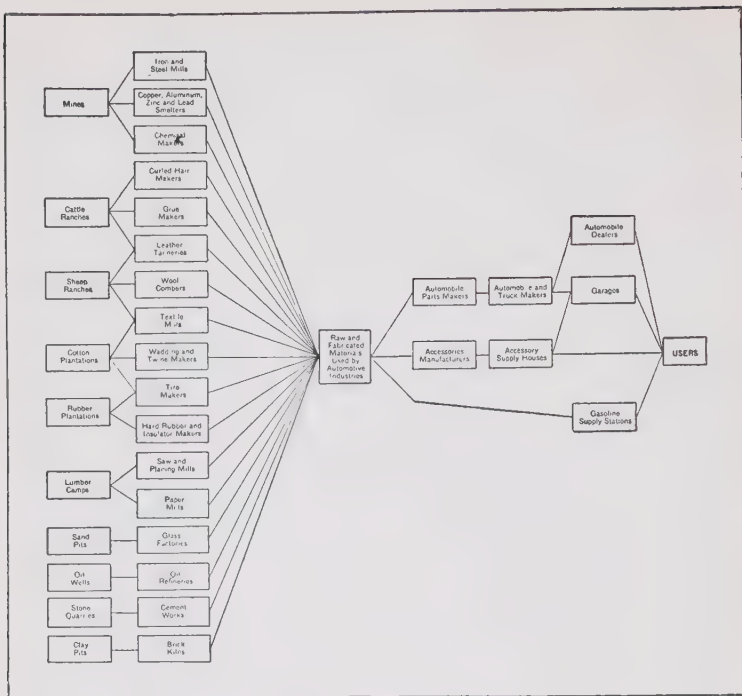


Figure 33: Organization of the automobile industry.

done with economy. Thus in selling house-heating furnaces, the Holland Furnace Company built up a large and successful business by employing its own local agents to sell and install furnaces. The unit of sale here, amounting to two or three hundred dollars, is large enough to justify house-to-house canvassing, or following up inquiries, and the volume of business is great enough to yield a living to a salesman, who is virtually in the position of running his own business without the need for carrying stock or investment.

Imagine, however, to take a few extreme cases, a hairpin store or a store selling only Procter and Gamble soaps. Or imagine the clerical detail and mailing costs of buying such articles separately by mail. The retail store thus performs

the function of assembling the products of many manufacturers so that they may reach the consumer in convenient small quantities. The consumer is also offered the choice of several brands and grades. The average grocery or drug store will offer several thousand items, originally from perhaps hundreds of producers. A large department store will offer many thousands of items.

The need for variety is less in lines like shoes, customarily bought at specialty stores, and it is in such lines that manufacturers' stores are most often met. Even these stores carry a few outside lines, such as shoe laces or polishes.

What applies to retail distribution is true also, in many cases, of wholesale distribution. The average grocer will want only a box of soap or a few dozen of canned goods, at a time. The unit purchased is not large enough to bear the expense of a salesman's call or to permit of economical shipment. Here, again, the wholesaler who carries many lines and can make up a sizable order in each store, effects an economy by the assembly of the goods for the manufacturer or seller and the small-scale purchaser.

Where a manufacturer attempts to do away with the middleman and deal direct, he can, in most cases, do so only by duplicating the facilities formerly supplied by the middleman. The chain of intermediate local citrus fruit exchanges, found necessary in the marketing of oranges and lemons as mentioned in Chapter VI, illustrates this. Often the manufacturer himself assumes the jobber's function. This may be advisable if the manufacturer is unable to obtain satisfactory distribution, or has the capital to run both a manufacturing and merchandising business. For example, the Eastman Kodak Company operates Sweet, Wallach and Company, a wholesale and retail store in Chicago. This store handles not only the varied products of the kodak company, but the products of other manufacturers, often competitors, such as opera glasses, photographic mounts, books, telescopes and optical instruments, thermometers, electric studio illuminators, and so forth.

THE MARKET PLACE

We may next discuss the provision made for a meeting place of buyer and seller. Any one who has spent hours or days in endeavoring to locate a source of supply for some article not customarily handled by his usual sources of supply, will realize the saving of time made by an established market place, where buyer and seller may know where to find each other. In the marketing of many types of products we find provisions made for the regular meeting of all interested buyers and sellers at a common point, so that the sellers are assured of contact with the greatest possible number of buyers and the highest offered price, and the buyers are assured of the widest selection and most favorable offered price. Of this type are the fair, the trade exhibition, the various produce and municipal markets and the exchange. Marketing by this process of providing a known meeting place is especially useful whenever either buyer or seller, or both, are not continuously in the market. Thus the individual stockholder who wished to dispose of his stock in a corporation, would have no organized contact with potential buyers were it not for the stock exchange.

Where both buyer and seller are continuously in the market, there is less need of a centralized exchange, and in the case of the sale by the manufacturer or jobber to the retailer, we find it common for the seller to establish contact direct with each customer.

Retail buying is intermediate in many cases between the occasional and the continuous contact of buyer and seller. In some cases we find a direct individual contact, as in mail selling, canvassing, and peddling. The predominant method of retail sale is today the retail store, a form possessing features both of the exchange and of the direct or individual buyer-seller contact. Looked at collectively, the retail shopping district so universally a feature of our system of supplying consumer wants, bears a striking analogy to the ancient fair, made permanent instead of temporary.

THE FAIR

One of the oldest types of market place, and one of great historical interest, is the fair. It used to be the custom in medieval England and continental Europe to hold, annually or weekly, or at other intervals, fairs at which many classes of producers met and displayed their wares, often in temporary tents or booths. Cloths, foodstuffs, cutlery and ironmongery, jewelry, and all manner of merchandise was brought to these fairs for exchange, and the concourse of so many people was made the occasion for festivities and entertainment, partly natural and spontaneous, partly provided by roving bands of performers who took their pay by collections.

The fair was an effective means of distribution in the days when local communities, and even individual households, drew their day-to-day necessities from the farm or purchased them from local craftsmen, and the need of exchange was only occasional. The fair has gradually passed out of existence as a vehicle of organized trade, although in the time of Henry Post, mentioned in Chapter I, and even until the general advent of the automobile in rural communities, it was the custom for farmers to come into town Saturday afternoon, bringing their produce, trading, visiting, perhaps listening to a band concert provided by the local merchants, at that time.

Shorn of most of its commercial significance, the annual county fair is still with us, providing a place for the display of products, either from motives of advertising or of pride, for horse racing, performance of traveling troupes of acrobats and magicians, and for much of the hilarity and social contact which were a part of the older fairs. As the isolation of rural and small urban life is disappearing, the social need for even these concourses grows less.

An enlarged form of the fair is an occasional feature of the national life of various communities. "World's Fairs," primarily for the display of merchandise (although quite a

substantial volume of actual sales is consummated) afford an occasion for a very extensive assembly of products, with incidental scenic and amusement features, alike educational from the trade and the general point of view. It is reported that a permanent fair for the display of manufactured products has been arranged at Leipsic, and a similar permanent display of the products of the British Empire has been instituted in England.

A picturesque survival of the ancient fair is found in the push-cart or ghetto markets of some of the larger cities. In the New York ghetto on the East Side, as in the Chicago center on Maxwell Street, push carts line the street, sometimes being run in conjunction with regular stores. Cheaper qualities of goods are carried by the vendors, who importune the passer-by to examine the merits of their varied wares. There is a municipal market master, who enforces the municipal regulations for this type of market, and arbitrates the occasional disputes as to the right for preferred push-cart locations.

TRADE EXHIBITIONS

There are a number of other modernized forms of the ancient fair, which partake partly of the nature of the fair, partly of that of the exchange. One of the most characteristic of these is the furniture market. Furniture manufacturers rent space in an exhibition building in one of the various cities featuring these exhibitions and for one month each, in January and July, display and take orders for their goods.

These exhibits are now held in several furniture centers in the country. The Furniture Mart in Chicago, one of the largest buildings in the world, has some 14 or 15 floors, divided up into booths of varying size, which are rented by the year and are in many cases used for permanent displays as well as for the semiannual "markets." A factory which has a popular line may book enough orders at a "market" to keep it going till the next market.

Goods are similarly displayed to buyers in various other lines of business, as at the toy fairs, the railroad appliance show, the flower shows, and so on.

PRODUCE MARKETS

The produce markets found in the larger cities, such as the South Water Street market in Chicago (now being moved to make way for a new street) mark the transition from the intermittent fair to the continuous, organized meeting of buyer and seller. Goods come into the South Water Street market in bulk from western fruit farms, southern or local truck farms, and other sources all over the country. They are handled by the jobber, who buys outright, or the commission man, who acts as agent of the shipper.

A looser form of this type is met with in the various specialty districts, common in the retail and wholesale trade, and mentioned in the discussion of regional specialization. Thus in Chicago, Lake Street from State Street to Market Street is the center for the wholesale hardware and the leather businesses, Market Street for the clothing trades, LaSalle at Jackson for the financial interests, Wabash between Van Buren and Twelfth for moving-picture distributors, Michigan from Twelfth to Thirty-ninth for retail automobiles sales. Every city has some traces of a similar regional specialization.

In many cities municipal markets have been built, for the encouragement of local farmer-producers. Stalls may be rented in these markets, temporarily or permanently, and farmers bring in loads of produce to be disposed of on market days. But the farmer is not usually a good retail merchandiser, and in spite of low rates and municipal encouragement, there has been a tendency for many such markets to languish or to fall into the hands of professional traders.

An important type of exchange market is the live-stock market, or stock-yard, found in many large cities, notably

Chicago, Kansas City, and Omaha. The stock-yard is usually a system of pens and other facilities for receiving and shipping, feeding and keeping lots of cattle for a short period. A charge for the use of these facilities is made by the stock-yard company. Cattle shippers from various parts of the country, watching the market reports and deciding which is the most favorable time and market, ship lots of live stock to these yards, where they know they will always be able to find buyers at the current price. The buyers come as representatives of the various packing-houses, and other interests, and as independent brokers and buyers. Each has his instructions or has made his decision as to the quantity he wants and price he will pay. Live stock is graded before being placed in the pen, or is quickly appraised by the expert buyer. A separate bid is made on each lot and a bargain reached, although, of course, any large variation from the prevailing price represents principally difference in grade, since any buyer or seller is free to await other offers if one is out of line. The stock-yards are usually adjacent, of course, to the packing plants, but are under separate management and have the status of public markets.

THE EXCHANGES

The next step in the evolution of the organized assembly of buyer and seller is the exchange, found in many lines of wholesale selling. The stock exchanges for the sale of securities have been mentioned. There are grain exchanges, butter and eggs, coffee, cotton, wool, and sugar exchanges, and in general where the goods can be graded and sold by description or sample in an open market, an exchange is apt to be developed. The facilities for exchange are furnished again by an association or a company, and the rules of trading are fixed by the association, but the actual buying and selling is done by independent brokers or principals. Transactions are usually divided into two classes, those for immediate delivery and those for future delivery. A very large vol-

ume of business is done by the exchanges and they constitute an essential part of the distributive system, especially where the individual buyer or seller is not regularly in the market.

AUCTIONS

Like the fair or the furniture market, the auction is an intermittent method of assembly of buyer and seller. The sale is conducted by an auctioneer who displays and extols the merits of the goods, according to accurate grading and description in the case of wholesale markets, or, in looser terms, in other cases. The auctioneer receives competing offers from those present and "knocks down" the parcel at the stroke of his hammer, to the highest bidder. The auctioneer usually works on a commission basis. The right may or may not be reserved to refuse bids. The auction is used to a considerable extent in the sale of fruit, of leaf tobacco, of wool (in the great London wool auction) and of fur, as well as of various other articles. It has the advantage of bringing together all the interested customers and of promptly disposing of the goods at the best price obtainable, an important advantage in the case of perishable goods. It tends to favor the seller by the appeal to the competitive instinct in bidding, which frequently forces bids above the price which would otherwise be paid. It is an effective means of organizing a market for intermittent sales, such as the disposal of household furniture or of the effects of companies which are forced to liquidate their business. A curious variation of the auction, occasionally used in the sale of real estate and some other commodities, is to offer the article at a price which is reduced by a regular amount each day, until it is low enough to attract a buyer.

In addition to these methods of making the connection between the buyer and seller an organized market place, there are the methods of individual contact between buyer and seller, and the retail store. These have already been referred to and will be further discussed in the succeeding

chapters. Probably the bulk of the business of the country is done through these latter channels.

DEVELOPMENT OF NEW FORMS

Some idea has been given, it is hoped, of the function of marketing in the orderly assembly, storage, and distribution of the products of factory and farm. The system is not static; it is, on the contrary, constantly and rapidly changing as the facilities for transportation and communication change, as tastes and customs change and as populations shift. New experiments are constantly being tried; no established system is safe from the challenge of improvements in method by competitors. Although there are many points of waste and abuse, the inexorable law of survival of the fittest, the regulating factor of economy as reflected in price, tend to eliminate ineffective and wasteful practices automatically. Thus there has been a competitive overloading of retail stores with expensive and often extravagant "service" features such as restrooms, concerts, lectures, unlimited delivery and return of merchandise, and so on. There are people who want and are willing to pay for this service. But when every store felt that it must go in for frills, the field was opened for the economy store, which sold for cash, did not deliver, spent little or nothing for trimming and service, even letting the customer wait on himself in some cases, and in consequence was able to show an attractive price argument in many cases.

XXVI

WHOLESALE MARKETING AGENCIES

The sale of producers' goods. Contracts. Integrating influences. Distributive agencies. Channels of distribution. Advertising and distributing channels. Sales management. Sales analysis. Demand and competition. Selection of salesmen. Management of salesmen. Planning sales.

WE may distinguish two general types of trade; first, that in producers' goods, to be used in manufacture for the second class, consumers' goods. While the general principles and functions of marketing are the same for each of these, the agencies and methods of selling differ considerably for the two types.

THE SALE OF PRODUCERS' GOODS

In the class of producers' goods may be put the raw materials of production and the machinery, office equipment, and other capital assets used as the instruments of production. It is perhaps proper to classify as of the same type also the sale by the producer of the finished product to wholesale or retail agencies for resale, since the conditions of sale are more like those of raw materials than they are of sale to consumers.

As was noted in the previous chapter, the sale of producers' goods is often a process of collection and concentration of small lots, up to the manufacturer, after which the process is reversed to permit subdivision of the total product and distribution among its many users. Quantities are usually, however, initially larger in the case of the original concentration of raw materials, and up to the disposal of the goods to the retailer, the motive for purchase is always principally the calculable one of profit by conver-

sion and resale, as distinguished from the varied whims and motives of the consumer in purchasing.

CONTRACTS

For standardized staple commodities, such as the grains, live stock, and so forth, distribution often takes place through an exchange, or some form of concourse of all interested buyers and sellers. For less staple materials, or those produced to buyers' specifications, the usual method of sale of raw materials is by contracts, either for comparatively large separate shipments, or for periodical shipment during the life of the contract. Various provisions are made in the contract; quality and specifications are agreed upon in detail, often with an agreed method of determining, and settling for, substandard material. Price and terms are usually agreed upon, more commonly a fixed price, occasionally the market price at the time of delivery. Quantity may be specified as a fixed amount, with delivery as called for during a period, or a fixed amount with a fixed schedule of deliveries, or as the buyer's total needs for a period, or in other ways.

Much dealing in producers' goods, both materials and equipment, is by direct contact between buyer and seller. There is room at many points for brokers and jobbers, however, as in the case of sundries mentioned in the last chapter. Where the broker or mill agent or jobber is availed of for important purchases, it is usually because of the service he is able to render by virtue of a superior knowledge of the market situation as to supply and demand, or superior contacts and arrangements, either with buyer or seller. Thus in the steel business, much carload buying is done through jobbing agencies which have contracts with comparatively small or little-known mills which are not able to afford their own nation-wide sales organization, but which furnish probably as good a quality as the better-known mills. Here the jobber is, in effect, a joint selling agency

for a group of small producers. The steel jobber often carries a warehouse stock as well as doing a carload business, and is thus able to offer a comparatively complete service to buyers, of special convenience to small manufacturers.

The great bulk of producers' business, both of materials and equipment, is done direct on the customer's order. Thus the steel mills work on a schedule of sold orders, producing practically no goods for stock. Production may be to stock in staple lines, with the regulating device of the maximum and minimum stock limits, discussed in Chapter XXII.

INTEGRATING INFLUENCES

In general, contact must be close and continuous between supplier and manufacturer. It is of great importance to the latter to be able to secure a regular supply, of uniform quality, and since the orders are so large, suppliers seek to cater to the individual wants of their often comparatively few large customers. Such close contact is less possible, of course, in the case of the suppliers of agricultural products such as wheat or wool. Here contact is made often through the exchange.

The manufacturer often feels the need for closer control of his sources of supply, either to assure his own supply or to prevent competitors from having access to a specially advantageous feature which he may have advertised. The history of some of the automobile accessories illustrates this need of control. An automobile manufacturer might one year extensively feature a particular purchased accessory in advertising his car, only to be informed the next year of a large increase in price, or to see competitors who had adopted the device, reaping the benefit of his sales effort. The need for control and close contact, therefore, to assure quality and uniformity and to secure protection, tends to lead toward a vertical integration of the manufacturer and his supply sources. This has taken place very conspicuously in the case of the Ford Motor Company and General Motors

Company, which own motor and body plants, carburetor, roller bearings, and numerous other accessory companies. The purchaser of the supply business is likely to carry on its business as before with the general public, and is thus often led into diverse lines. Thus the Eastman Kodak Company, in securing a supply of nitrocellulose, used as the base of photographic celluloid film, finds itself embarked in the manufacture of material for automobile curtains, and "Kodalak," a finish used for automobiles.

This same tendency exists, in a measure, with retailers having sufficient volume to warrant featuring their own brands. The large mail-order houses often operate their own factories in a variety of lines such as wall-paper or agricultural implements, and contract for the whole output of others under terms which give them a virtual control of the policies of their suppliers. Marshall Field and Company, with an extensive wholesale as well as retail business, owns and operates large factories in a number of lines, particularly cotton goods. The chain stores, especially chain drug stores, follow the same policy where there is sufficient volume in one line to make it profitable.

On the other hand, the larger suppliers, such as the large steel companies and the meat packers, have followed a policy of integrated control up to the point of diversified manufacture and sale, but have stopped there. It would not be an impossible task for a large meat packer to start a chain of retail meat stores, as has been done in England. So far the packers have preferred to carry the meat by their own wholesale agencies, the branch houses, up to the retailer, but to stop there, feeling that distribution would not be increased by a chain of stores, and that the lower degree of carefulness and possible petty dishonesty of employed store managers, would more than offset any profit on the operation of stores by the company instead of by independent dealers. The retail meat business is one of large turnover, very small margins and comparatively small profits, and much of the profit depends on the skill and economy of the

butcher or cutter, in making the best division of a side of beef, for example, and securing some return on every possible bit of meat, fat, and even bone. It was feared that this scrupulous economy would not be exercised by hired managers. There was also a question of the possibility of prosecution under the anti-trust laws.

In many lines of business there are certain strategic points at which a control of the market may be secured. In the steel business this lies in the ownership of the mines and the processes up to and including rolling. In tobacco, the strategic point seems to be marketing, since production is scattered among many farming communities in this and other countries. In oil, the point of control is mainly in the refinery and pipe-lines, representing an investment few could undertake adequately. Once a control is obtained at these points, it is often to the interest of those who have it to encourage as large a number of independent merchants or producers as are economically effective, to work for the controlling corporation as well as for themselves.

DISTRIBUTIVE AGENCIES

Incidental references have been made to the channels by which goods flow from producer to user, but it may be well at this point to further define some of the agencies and outline some of the possible channels of such distribution.

There are two principal types of relationship found in marketing goods through middlemen. In one type the middleman acts as agent of the seller, handling the goods and making the sale for his principal, under more or less specific instructions and within defined limits of discretionary action. The agent does not take title to the goods, and he receives his pay as some form of commission, fixed or proportional, on the sale. The commission merchant and the stock broker are of this type, as are the real estate and insurance broker, and agents in many other lines of goods. The auctioneer also acts as agent and receives some form of com-

mission as pay. Consignment sales are also handled in this way.

In the second type, of marketing through middlemen, the middleman buys the goods outright and resells at whatever profit he can secure. Of this type is the jobber, who is the principal agency in supplying the needs of the retailer. Many types and variations of the jobber are found, ranging from the large wholesale house carrying a complete line of goods in stock with a clientele national in extent, to the small local jobber who may in some case peddle his stock to the retailer from a wagon. Of this type, of marketing by outright sale, are also the wholesale receiver, who acts as an intermediary between producer and jobber, and the retailer, who completes the chain to the consumer.

These types are found in many variations and combinations. The commission merchant or broker may at the same time and sometimes with the same customer also be handling some goods by outright purchase. The jobber may do some retailing. The manufacturer may do some jobbing. Many other combinations are found.

One of the problems of price-making and giving of terms is to classify correctly the agencies dealt with. Where relationships in a trade are very mixed, the vendor may be forced to resort to a quantity basis. For example, it is often the case that a firm entitled to a jobber's rating buys and sells small quantities, while a large retailer buys many times this quantity. Here, one price to all or a quantity price without regard to classification may be the best solution. The quantity price, however, if it offers more than a small differential, tends to discourage the small user. Sometimes the matter is handled by making separate contracts with large users, at a price lower than list. Sometimes a firm specializes in one kind of trade. Thus some firms deal exclusively with large users, others specialize in catering to small users. A firm which sells the large mail-order houses finds itself at a disadvantage in dealing with local retailers. Unless a firm is in a dominant position in the trade, it is

hard to hold the trade of all classes, and the better plan is often to select the most available and profitable class of trade and cater specially to its wants.

A special form of brokerage or commission sale met with in the retail trade is the *consignment sale*, in which the vendor of goods ships them to a retailer who acts as agent, the vendor retaining title to the goods and the agent being required to remit the proceeds of the sale, less commission, immediately on making the sale. This plan is used where the vendor wishes to retain full control of prices or other conditions of sale, or where the retailer's credit is uncertain and the vendor does not wish to surrender possession of the goods, with consequent danger of loss in case of the retailer's failure. It is also used to introduce goods which the retailer is unwilling to buy outright.

CHANNELS OF DISTRIBUTION

Let us now summarize the possible channels for distributing the product from maker to user, the channels from raw material producer to manufacturer having already been described. The most direct plan of distribution is from *manufacturer to consumer*, the sale being consummated by advertising, or by the activity of a manufacturer's store, or of canvassers or agents of the company. The Regal and Douglas shoe stores illustrate one variety of this type of distribution, sale through maker's stores. Sale by mail is illustrated in the case of many small novelties advertised in the papers, by manufacturers who do not have sufficiently dense distribution to justify regular agencies. Sale by agents is illustrated by the plan of the Fuller Brush Company, and the plans of various hosiery, household utility, and similar manufactures. A fourth type might be distinguished to include the small local producers, bakers, confectioners, and others who combine manufacture and retail merchandising of their own goods, and often of goods purchased for resale.

The next typical plan is sale from *manufacturer to retailer to consumer*. This is one of the commonest plans. Probably three-fourths of the furniture manufactured is sold in this way, stoves, refrigerators, household electric utilities, and many other lines being handled in the same way. Meats are sold in this way, although the packer's branch houses really perform the function of independent jobbers. The public service company and the garage or automobile agency serve as retailers for the distribution of electric and gas fixtures, and automobiles, respectively, by this plan. Lumber, books, shoes, and men's suits are sold in this way. Auxiliary agencies, such as the furniture exhibition, the office appliance show, style shows, and automobile shows, are often used in connection with this plan, as also sometimes with other plans.

The third basic combination is *manufacturer, to wholesaler or jobber, to retailer, to consumer*. This and the second plan are the dominant merchandising plans. Where the manufacturer makes too specialized or limited a line, or the unit is too small to permit of economical direct distribution, this is the plan used. Practically all groceries, and the sundries handled by grocers, are sold in this way. The same is true of most hardware and of a large part of the drug and the dry-goods trades. Men's furnishings, jewelry and notions are other goods handled through this channel. Magazines are distributed to news-stands, through agencies of this sort—such as the Western News Company—which contract for the entire news-stand circulation of most of the popular magazines for certain territories, and distribute these magazines to the news-stands.

This group may include also those cases where more than one middleman serves between manufacturer and retailer, as where the mill agent sells to the wholesaler. Sometimes a whole string of intermediate distributors find an opportunity to render some service in distribution. Generally time and the pressure of price force out the unnecessary middlemen; sometimes, of course, they are able to maintain

their hold for a time because of custom, or some artificial advantage or pressure.

The relationships are not in practice as simple as here outlined, but consist of combinations of these plans. Thus a furniture dealer may at the same time be buying part of his furniture direct from the maker and part of it, maybe the same items, at times through a jobber who can furnish quicker deliveries or longer credit accommodations. Many furniture dealers do a little upholstering, wholesaling, and perhaps manufacturing at the same time. The large chain stores selling furniture, groceries and drugs, and the large mail-order houses often buy in sufficient volume to secure better contracts than are given to wholesalers.

Another anomalous class is met with in the case of hotels and institutions, which while, strictly speaking, not retailers, usually buy in quantities and are given special prices.

Some of the difficulties met in classifying and making terms to these various dealers were discussed in a previous paragraph. Three tendencies are observed: The first—in some lines—is to disregard the distinction between retailer, wholesaler, and sometimes even consumer, and to sell on a quantity differential which furnishes large buyers an opportunity to resell at a profit. This is done in the sale of photographic supplies to quite an extent. A second is to have one list price for all buyers, with a scale of discounts based either on quantity or dealer classes or both. A third plan is, as mentioned, to specialize on one or a limited number of classes of buyers.

ADVERTISING AND DISTRIBUTING CHANNELS

The combinations of distributive agencies described may be further varied by the plans of advertising used, and without discussing the technique of advertising, which will be taken up later, some combinations may be described at this point.

The manufacturer who desires to advertise his product

has the choice of directing his advertisement to wholesaler, to retailer, or to consumer, or to all or any combination of the three. Which shall he use? When he is in a dominant position in the industry, his goods established in public favor with a volume of demand which automatically makes it to the interest of the dealer to buy, most economical results are sometimes secured by spending most of the advertising appropriation on the consuming public, since in this case the demand will be strong enough to make the dealer anxious to handle the goods. The average dealer is usually somewhat a passive instrument in selling, and in the main advisedly so. He sells the goods that are easiest to sell, that move most quickly from his shelves. Large manufacturers have to a considerable extent taken the initiative, creating the demand for their goods direct, supplying materials and suggestions to the dealer, and helping him plan his campaigns of selling. This is not done with the mistaken attitude once taken, of forcing the dealer to stock the goods by advertising pressure, but the attitude is that of offering him services and assistance. This plan renders the manufacturer secure, to a large extent, in the good-will of the public.

When the goods are not as well established, more concentration on the dealer may be advisable. If the dealer is convinced of the merits of an article, he will tend to favor it in his selling, and outside of a few highly standardized and nationally advertised articles about which the public has learned to be insistent, the sale really rests in the retail salesman's hands. The customer will usually, in a good store, follow the salesman's recommendation. To secure this good-will of salesmen, many firms do a considerable amount of advertising, and direct special attention to the salespeople, in selling. Thus the manufacturer's salesman may ask permission to demonstrate his article to the floor salesmen of a customer, or may go on the floor during a sale and actually sell the goods to the store's customers, showing possibilities and explaining how he made his sales.

One company, the Seng Company, distributes to its customers' salesmen a furniture pocketbook or handbook, a neat little manual giving information about the various types of period furniture, general suggestions about selling, with special references, of course, to the merits of the Seng Company's product.

The manufacturer also uses dealer advertising to stimulate activity on the part of retailers, many of whom tend to be lethargic and indifferent. Special offers, photographs and descriptions of what enterprising retailers are doing, announcements of new models, and so forth, all serve this purpose. Many firms get out monthly letters or house organs, liberally spiced with illustrations, humor, general information, and whatever it is thought will interest and stimulate the dealer. The International Harvester Company and the Ford Motor Company get out such publications. Serving a different trade (producer's goods such as belting, oils, and machinery supplies), is a little booklet called the *Houghton Line* which serves as a good illustration of this type of advertising. The president of the company, Charles E. Carpenter, has a direct and epigrammatic style and mixes up his reflections on life in general, his personal experiences and hobbies, and his company's products, in an interesting manner that has made the little booklet quite well known in the trade.

Sometimes the manufacturer will simultaneously cover by advertising all three stages, wholesale, retail, and consumer. In some lines such as with many furniture companies, the first two are covered, and consumer advertising, the most expensive form, is not attempted. One value of consumer advertising must not be neglected, as it is often as important as any other: the feeling of support it gives to the dealer and wholesaler.

The wholesaler does not usually advertise extensively, outside his catalog, unless he is marketing his own brands, in which case he assumes much the same position as the manufacturer as regards market control.

PROFITS DEPEND UPON TURNOVER

The National Retail Hardware Association finds that the average retailer makes only \$6.03 net profit on each \$100 invested. He turns his stock on an average of 2.28 times a year.



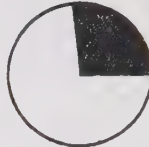
Net Profit on each \$100 investment with average turnover (2.28 times a year), \$6.03



Net Profit on each \$100 investment with 3 turnovers, \$11.33



Net Profit on each \$100 investment with 4 turnovers, \$18.70



Net Profit on each \$100 investment with 5 turnovers, \$26.07

Plumb Tools will help any retailer to speed up his turnover, and profits depend upon turnover absolutely. Here is the picture of dollar profit on your investment.

When you buy various brands

of hammers, hatchets, files, sledges and axes

1 You have \$300 (average) tied up in duplication of brands and slow moving stock. Your turnover on much of this is so low as to mean actual loss.

2 Too many brands, too many items, take up too much room—loss in rental value alone; a further loss in interest on your cost, in insurance, taxes, depreciation.

3 The finish does not protect the tools. They rust and tarnish and soon they look shopworn.

4 You feel the need of strong selling features, such as improved design, better finish and balance and hand-comfort handles.

5 Unknown brands make selling cost high, because retailer has to force them on buyers. More time required in selling means fewer sales.

6 You wonder why your tool sales are not growing as they should. Displays of unknown tools don't pull as they used to—before Plumb became the best known brand.

7 At inventory time you wonder how you got so many tools. You vow to move them out—to stick to Plumb.

When you buy Plumb

hammers, hatchets, files, sledges and axes

1 In the Plumb advertised line you invest \$150 in fast moving leaders. You easily turn your Plumb stock $5\frac{1}{2}$ times a year, as hundreds of others do

2 Concentrated buying of Plumb tools saves shelf space, which saves rent; reduces inventory and interest charges; does away with "stickers."

3 The black heads of Plumb tools resist rust; the red handles stay clean. Stock always fresh.

4 Every Plumb tool has strong selling features—including the wonderful Plumb Take-up Wedge that retightens the handle.

5 Plumb tools make selling costs low. "The red handle, the black head and the name Plumb" insure quick sales and larger profits for you.

6 Plumb gives you, all charges prepaid, window and store display material that helps the sale of your whole stock—trims that stop passers-by like a rope across the sidewalk.

7 At inventory time you are pleased with your clean, compact stock of Plumb lively sellers. "They're worth more."

Figure 34: A practical argument for retailers.

SALES MANAGEMENT

Outside of the exchanges, the usual method of making contact with the buyer in the wholesale lines is by the personal calls of salesmen or representatives. There are some exceptions to this. Butler Brothers, for example, do a very large business, exclusively wholesale, by mail. A catalog is sent to many thousands of retail stores, and a mail-order business is done on lines in many ways similar to those of the usual retail mail-order business. The company arranges to have a representative call on the dealer once a year in the interests of contact, credit information, and good-will. It also furnishes to its customers quite an extensive advisory or staff service, publishing manuals on the practical management of the retail store, and sending specialists if desired to assist in working out systems of accounts, or window trimming methods, choice of location of store, and so forth.

The predominant method of sale is personal, however. Other things being equal, a man on the ground can best size up the customer's needs, and he has an advantage in closing the sale and securing the order which indirect methods lack. He can also act as the representative of his house in sizing up the general condition and credit of the customer, and in selling or sometimes in other negotiations can settle in a few minutes questions which might take weeks to handle by correspondence.

The sales manager is responsible for the direction and management of the salesmen, a problem having much in common with the organization problems of any other business activity. The sales manager also has charge of those problems special to selling. The principal problems of sales management may be included under the headings:

1. Study of market conditions and market analysis;
2. Selection, training, and management of salesmen;
3. The making of sales plans, laying out territories, and apportionment of quotas;

4. Formulation of selling appeals and planning of selling and advertising campaigns;
5. The handling of exceptional questions with individual customers.

SALES ANALYSIS

For a new business which is just starting, or for an existing business by way of overhauling and check-up, it is an advisable plan at occasional intervals systematically to review the selling policy of the company. Some of the points to be noted in such an analysis were discussed in Chapter VII. Percival White¹ suggests the method of making such an analysis, presented partially from the standpoint of an advertising or sales consulting agency, reporting for a client. Such analyses are a common method of preparing to plan an advertising campaign.

Under the caption, the *product*, its general characteristics and adaptation to its uses should be studied. A table may be prepared showing the various characteristics of an ideal product, and checking with these the characteristics of the product studied, and of competing products. This may indicate points where improvement is needed, it may indicate strong points which may be made the basis of selling and advertising, or may possibly show inferiority of the product in some direction which makes it inadvisable to continue its manufacture unless it can be improved.

The question of standardization and simplification should be taken up, and a decision be reached as to what lines should be continued, dropped, or added.

The investigation should include a study of the permanence of the article from a commercial standpoint, investigating the possibility of its being superseded by improved models, or of demand for it decreasing due to changes in population or in habits of living, or the possibility of the supply of some essential material being so limited as to render its manufacture precarious.

¹White, P., *Market Analyses*, McGraw-Hill Book Company, New York.

Parlin¹ points out the importance of the distinction between style and utility goods in merchandising and manufacturing. In utility goods the tendency is to develop well-standardized types of product such as iron pipe, tools, and so forth, which are manufactured in large quantity with little change from year to year. For these staple goods there is an economy in large-scale production, and the business in such lines tends to be absorbed by very large producers. In style goods, on the other hand, the demand is exceedingly fickle, often brief, and there is demand for a great variety and for individuality. Here large-scale production economies are capable only of a very limited application, and further, it is the idea that counts, and anybody's idea may capture the market. The style lines, therefore, usually offer greater opportunities for the newcomer than do the utility lines, although, of course, a patented improvement in a utility goods may, if important, open up a very large market.

The questions of *grading* and of size and style of package and of branding the goods, which are part of the product survey, have already been discussed.

Next will come the investigation of the *company itself*, its advantages as regards size, geographical location, efficiency of production, reputation in the trade, control of raw materials, patents, or other basic elements.

DEMAND AND COMPETITION

Next in the investigation will come the study of the market. Here probably the best method is to go direct to the customer with a questionnaire, either written or developed by personal interview. With the written questionnaire it is hard to get careful answers from many of those addressed, but the written questionnaire may be used to supplement the personal call method in getting information from a large territory.

¹ Parlin, C. C., "Why and How a Manufacturer Should Make Trade Investigations," *Printers' Ink*, October 22, 1914.

The point in constructing a questionnaire is to make it sufficiently interesting, and short enough to command the prospect's attention. It has been used in market investigation with a fair measure of success.

Questionnaire or personal interview with present customers, former customers, dealers who handle other lines, and consumers, often will bring out points which are disliked in the product or the company's service, suggested improvements, reasons for discontinuing to buy, motives for purchase, new uses and markets, and many other useful facts. Thus a study was made, by a chain of restaurants, of food sales and the preferences of customers. As a result the restaurant specialized on roast ham, putting an appetizingly prepared ham in an illuminated display frame in the show window. It was found that the general clientele of the restaurant was found mainly among young men employed in offices, and the style of menu and service which appealed to this class, was emphasized. A half-humorous, exaggerated style of food description was adopted on the menu, such as "Extra fine salmon, creamed in choice butter, rushed all the way from the Pacific Coast in a special refrigerator car for ABC patrons."

Among the various reasons found in one survey, for buying a particular brand of goods, were habit, personal friendship for firm salesmen, prompt deliveries, convenient location, price, better terms, quality, and advertising.

The extent of the market must also be ascertained, and this may be done approximately by the use of statistics and tests. If experience shows that one out of ten calls results in a sale in a territory having a given population, the sales possibilities may fairly easily be analyzed. The nature of the population must be considered. Certain articles such as cheap and gaudily framed "art" of a certain type find their outlet principally among foreigners. Some articles are used by one sex, not by the other; some by both sexes. Kerosene lamps are today practically exclusively an article of rural commerce. Apartment house hardware, medical

instruments, invalid chairs, all have their obvious special limits of sale, not difficult, in an approximate way, to estimate.

This estimate must also consider the volume and intensity of the competition. There is little profit in invading an already saturated market unless one has a substantial advantage in improved product, cost, or some other factor.

This original study, when completed, will serve to show whether the company's energies are being effectively directed. It must be revised from time to time, as markets and products keep changing.

SELECTION OF SALESMEN

This is, in the main, a question of personnel method, and will receive discussion in following chapters as to method of training and compensation.

They say a salesman is born, not made. This is partly but not entirely true. The salesman must know his product and have confidence in it and in himself. He must be reasonably quick-witted, to have an answer ready for unexpected questions, although in many types of selling, if not in all, it is possible to avoid such emergencies by previous analysis which discloses the objection and by training or coaching which causes the salesman to memorize the answer and have it on the tip of his tongue. In general, the salesman must possess a good constitution to stand the vicissitudes of traveling and hotel life, must be reasonably resilient and insensitive, must have tact and like, and get along with, people.

In the experience of one successful sales manager of a printing business, the most effective and economical method of developing salesmen was found to be the taking into the organization of promising college graduates, who were put in a company school to learn the general technic of printing and of estimating, and were then given instruction in the methods of selling. These men were put out on the road

at first with the sales manager himself on his city calls, and learned how to meet customers and to handle themselves.

The requirements of salesmanship are changing in most lines. Personal friendship is still an asset but it must not be cultivated too blatantly, for the buyers are more sophisticated. More and more the salesman is dealing with a trained buyer, who knows the right questions to ask and is not deceived by unsupported general claims, who buys on price and value and not on the strength of a box of cigars.

MANAGEMENT OF SALESMEN

The Dennison Manufacturing Company found that when its salesmen were out on long tours, often taking several months, they tended to get out of touch with the house. Hearing every day the customer's objections on the score of price, style, and so forth, the salesman comes unconsciously by repeated suggestion to lose his faith in his goods, to take the customer's view-point against the house. In the case of the Dennison Company, contact was restored by a somewhat unusual plan. The branch managers were brought to headquarters, where they spent enough time to be of real service in shaping company plans, and to charge themselves fully with the attitude and atmosphere of the home office, before starting on periodical trips. In these trips they came into first-hand contact with the salesmen in their territories, and with conditions in the territory itself.

Another method of securing this contact is by means of periodical conventions. At these conventions conditions in the territories, and company plans, are discussed. There are usually social features, a dinner or so, the awarding of prizes for the winners of sales contests, and similar activities. Often an especially successful salesman will be asked to explain his methods, or demonstration sales may be staged by a salesman and imaginary buyer, and criticized and watched by the other men.

Good results are also secured by less formal discussions

with individual salesmen, of conditions in their territory, difficulties met and the remedy, and future prospects.

PLANNING SALES

The territory of the sales manager offers a problem which may be controlled in a fashion analogous to production control. There is a certain ground to cover, with certain railroad connections or automobile mileage and a certain number of calls to consider. All of this with experience may be fairly well standardized, and a route laid out which will secure the most economical coverage of the territory by the salesman.

The possible sales may also be estimated, using population and previous experience figures, with more intensive studies and tests if necessary. A salesman's territory must be of such a size, and configuration as regards transportation, as to enable him just to get around it at the selected interval. Thus in city sales the customer expects weekly, or sometimes even more frequent, calls. Territory is dense and more calls may be made in a day, but a salesman could hardly be given more than 50 to 100 customers, depending on conditions. In the country districts monthly or quarterly visits may be all that are customary, and while not as many stops can be made per day, a larger territory may be assigned.

Much depends on the policy of the house, as to the intensity with which a territory is covered. Under some conditions it pays only to "skim the cream," to pick up the easiest and most profitable accounts over a large territory. But for most lines, better results are secured, and less time and expense are wasted in traveling, if a given territory is thoroughly covered, securing a concentration of sales pressure adequate to produce results, in a limited territory. This is particularly true where advertising is done, as profitable results cannot be secured by scattered selling and advertising. The "skim the cream" philosophy tends also

to make salesmen indifferent about holding customers, since there are plenty more. This attitude in time results in indifferent service and a loss of good-will in a territory.

An actual increase of sales often results from reducing a salesman's territory and requiring him to cultivate what is left more intensively. Thus one company had a salesman who had for years handled the whole state of Georgia, confining his efforts mainly to the southern part of the state. His sales did not measure up to those of other territories on a per capita and wealth basis and the territory was divided, the northern half of the state being given to a new man. The old salesman, of course, objected, but was silenced by the fact that the new man was soon producing more in his half than the older man had ever succeeded in getting from the whole state, and that his own sales were not decreased noticeably. The experiment worked so well that the southern half of the state was subdivided in turn, again with an increase by the new man. This woke the first salesman up and he increased his own application to what was left him, with the final result that from this quarter of his original territory he was presently earning more than he had ever previously earned from the whole state.

The matter of territory assignment is a somewhat delicate one. A man who has built up a territory naturally resents having any of it taken away from him. He may resign and endeavor, often successfully, to take his clientele with him to a new firm. Many large companies having close control of their market prevent this by a rotation of salesmen every year or two, the better men, of course, receiving promotion, but no man remaining in one territory long enough for the customers to think of the salesman as the company. On the other hand, something of the loyalty and personal interest of the customer is lost when he is called on by a succession of new salesmen from the same house.

Insurance companies and bond houses go to the opposite extreme, their salesmen being virtually in little private busi-

nesses of their own. Here the commodities sold, bonds or insurance, are so standardized in general features that the customer buys very largely on the personal advice of the salesman, and would buy from him quite regardless of whether he recommended one house's bonds or another's.

An advisable middle course is to allow one man to handle a territory as long as he is able to do so effectively, but to see to it that the customer has other direct contacts with the house, by correspondence, circulars, or calls by the sales manager or other suitable representatives. Then if a salesman leaves, a letter will at once be mailed to his accounts, announcing the resignation of Mr. Blank and the fact that "Mr. White will take over Mr. Blank's accounts, and will call on you in a few days to get acquainted. We are sure you will find that Mr. White will do everything in his power to serve you well," or words to that effect.

The sales manager or his district managers will also determine salesmen's quotas, where this plan of control is used. Some form of extra compensation or promotion is usually tied up with the meeting of the quota, and this plan gives the management a better idea of the business to expect, and the salesman a definite goal of achievement to aim at. In setting quotas, care must be used to see that men in unproductive territory are given proportionally lower quotas. Whether the unproductiveness is due to the territory or to the man is a question that may be judged in part by a study of population, per capita wealth, and buying habits. Sometimes the manager will spend a few weeks selling in the territory to find out for himself, which is a good thing in itself, in keeping him from forgetting the salesman's troubles and problems, and also enables him to judge whether the "poor territory" claim is real or an alibi only.

The salesman should be required to make a careful report of calls, a card such as that shown in Figure 35 being made out for each customer called on and the result of the call noted—a rating of the value of the customer, estimated

Salesman's Expense Report										
										Week Ending
										19
Day	Date	Hotel	Garage and Auto	Railway Fare	Meals	Incidentals				Total
M										
T										
W										
T										
F										
S										
S										
Total										
Balance last week										
Amount received										
Amount spent										
Balance on hand										

System, March, 1925, p. 312.

Figure 36: Salesman's weekly expense record.

uct and the general plans for the future development. The second part is the work of performance, and this includes the detailed plans for scheduling of the various salesmen, the supplying of information and inspiration to salesmen, and the detailed problems of supervision and of seeing that

from day to day the plans are being carried out and quotas met.

As in other departments, the methods of cost analysis, of breaking down of general figures into details and allocation of responsibility or determination of relationship between cause and effect, may here also be used with good results. Comparative analysis of sales, classifying them by salesmen, by territories, by seasons, by pattern or type of goods, by price of goods, by customer, by size of order, by profit per customer or salesman, will give valuable information in indicating weak points, showing tendencies, correcting judgment as to the importance of lines or customers, and producing a basis for making plans for future business.

Thus a classification by customers will often indicate that certain accounts are carried at a loss. Thus one finds customers who order in extremely small quantities, who habitually return merchandise or take allowances and discounts to which they are not entitled, who waste advertising matter, who give nothing but troublesome special orders to one concern and buy their profitable staples from another, who are slow pay and put the company to correspondence expense in collecting. Without an analysis, such accounts are apt to be overlooked, or even considered as favorable accounts. The analysis shows clearly the actual conditions.

XXVII

RETAIL DISTRIBUTION

Similarities to wholesale distribution. Sale by mail. House-to-house selling. The retail store. The convenience store. The department store. Chain stores. Manufacturers' stores. Cooperative stores. Store management.

MOST of the types of distributing agency met with in the sale of producers' goods are also met in some form in retail selling. Thus the auction is used where the articles sold are either of unstandardized value into which opinion enters largely, or are offered for sale at such irregular intervals that the other channels of organized selling are not available. The exchange is not as common a mechanism for retail selling, although the municipal farmers' market corresponds to it in some respects. Selling by advertisement, by mail, by customer-to-customer canvass, are common. The retail store is the prevailing method of retail distribution. Contact of buyer and seller is secured, not alone by the single store, but by the whole shopping center or retail trade district, which furnishes a central market in which the consumer has many kinds and makes of goods from which to select.

In general, relationships between buyer and seller are more casual in retail trade than in the sale of producers' goods. In certain lines, such as telephone, gas and electric service, fuel oils for house heating, water, and a few other lines, the customer is served under regular contracts similar in many respects to those used by manufacturers in securing their raw materials. But generally, the customer buys in small quantities as he needs the goods. Custom and convenience, and the attractive power of good salesmanship are relied upon to secure a regular trade. This condition also

extends to a degree to the retailer, who very largely buys without regular contracts, now from this dealer, now from that, tending, of course, to settle down in the main to certain sources of supply. Contracts are not infrequent, however, between the retailer and his supplier. Most automobile agencies agree to handle exclusively one car or a certain group of cars, the cars in the latter case being usually selected to give a good price range.

The stability of retail customers varies greatly according to line and circumstances. With automobiles purchased only at comparatively long intervals, many customers may experiment with a new car every time they buy, having gotten tired of the old one. Others, of course, settle on one make. Quite a share of the trade of restaurants is transient, and a very large portion of hotel trade is of this class. Men seem to change brands of cigars and cigarets often, getting tired of one taste. On the other hand, the grocer, tailor, dentist, if competent, usually hold a large part of their trade year after year. Stores with transient trade depend on the law of averages to bring them new customers as the old ones are lost, since their competitors are subject to the same influences making for restlessness or circulation of customers. Advertising and location are particularly important with such shifting markets.

Generally a store selling on the basis of reputation for quality and service, if it holds its prices in general line with the market, has a more permanent trade than the store selling on the basis of price.

The types of retail distributing agency are very varied, ranging all the way from sale direct-by-mail to sale in the store. It will be worth while to describe the principal types and their most appropriate fields of application.

SALE BY MAIL

Selling by mail might be divided into classes similar to those to be used for the retail store, the specialty type and

the department type. The specialty type is illustrated by the mail-order cloak and suit companies, the manufacturers of hand-power printing presses, toys, household specialties, medicinal and toilet preparations, and others whose advertisements appear so often in small type or larger advertisements, in magazines. Outside of a few of the larger houses which really approximate the breadth of field of the department type of mail-order business, such selling is, in the main, confined to small firms whose customers are so scattered that the goods cannot be handled through established retail channels, or who are unable to secure distribution of this type for some other reason. Thus "Rocky Mountain curios," cactus, and the investigation of one's family tree by a geneologist would be hard to sell through the ordinary retail store. Correspondence courses are largely sold by mail, although canvassing is also used for this type of distribution. Some companies, as in the case of makers of some of the newer expensive household appliances, initiate the sale by mail and turn the prospect over to a local dealer for the rendering of service and completion of the sale. Clerical and shipping costs, credit questions, and so forth, offset in considerable measure the apparent economy from dealing direct.

The general or departmental mail-order houses present a different type, merging, of course, by degrees, into the other type. The two great retail mail-order houses, Montgomery Ward and Company and Sears, Roebuck and Company, do a tremendous business, and there are other smaller houses of similar character. The catalog is the principal selling agency and expense, and the familiar, bulky volume with its thousands of pages is sent out to great numbers of people. Of late there has been a tendency to economize on the distribution of the large catalog when information is requested in a particular line, using smaller specialty catalogs and "flyers" announcing fewer items or featuring special sales. Some other advertising is done, but the mail-order houses as a rule are not heavy general advertisers.

The competition of the mail-order house has been felt most seriously by the small-town and country merchants. These merchants have to supply a great variety of needs, in small quantity. They are forced to carry a large number of items, with resultant small turnover, and turnover and total volume are so small with many of them that the mark-up has to be high to enable the storekeeper to secure even a meager livelihood. The tremendous selection and lower prices of the mail-order house are hard for the local merchant to fight, and feeling is naturally bitter among these merchants, who are called on as before for the various services, often free, to which the customer is accustomed, but see the profitable bulk of their business absorbed by the firms whose freight and mail shipments, in modestly unlabeled boxes, are seen in the automobiles parked at the retailer's doors. The feeling is well expressed by the sign seen in a Kentucky garage—"If you buy your tires by mail, get your air at the post-office." The answer to mail-order competition, of course, is specializing on the service features in which the local store is strong, with prices to correspond, and a campaign of information as to prices on those lines in which the local dealer can compete with the mail-order house. As a matter of fact, the mail-order prices are usually no lower than the prices made by the chain stores, low-price department stores, and other well-equipped merchandisers.

The advantages and limitations of the mail-order house may be summarized in the main as follows:

1. The mail-order business secures a great volume of business, which enables it to buy on favorable terms or to manufacture for itself. This also enables it to carry very complete stocks and still maintain a satisfactory turnover. Many of its items, in fact, are simply carried in the catalog and stocked in very small quantities, being reordered from the supplier as sales are made.

2. The fact that the order comes by mail eliminates the need for an expensive retail location. A mail-order business

is located with much the same considerations in view as those governing factory location.

3. This same fact of mail delivery enables it to handle orders economically. Business can be distributed evenly during the day, or even spread over two or three days, if necessary, instead of coming in irregular hourly peaks. Cheaper clerical help may be employed and work may be done by volume production methods.

4. It is very convenient, and there is an enticement about it, to sit down in the evening and make out an order from the catalog. Many items are included that would not be bought at a visit to the local store. The mail-order houses have leaned backward of recent years in seeing that catalog descriptions were accurate and conservative representation of the quality of the article, and most concerns guarantee to refund money without question if the goods are not as represented, or are a disappointment to the buyer.

On the other hand, this type of business has the following handicaps:

1. People like to select an article, see it for themselves, and take it home rather than wait for it. The merchant who carries an attractive stock affords this facility, which the mail-order business can only approximate by catalog description and liberal return privileges.

2. The local dealer can offer service features, delivery, credit, adjustment, aid and advice in selection, which the mail-order house renders, if at all, more clumsily. The local store also has the advantage of being able to exert personal salesmanship, always an effective factor, if rightly used, in closing the sale.

3. Less effective, but still much used, is the argument of local patriotism. The local merchant pays taxes, he helps pay for the roads, he is there on the ground, known and presumably responsible, he is a fellow citizen. Mail-order customers are apt to buy with a slight sense of guilt, but they, unfortunately for the local merchant, do buy by mail

unless the merchant can offer more direct inducements in the way of service and price.

A somewhat similar competition is found between the neighborhood or suburban store, and the shopping centers of large cities, with their suburban and satellite towns. Here the local patriotism and acquaintanceship motive is somewhat used, and there has also been a more general recognition of the proper economic fields respectively for the local convenience center, with its slightly higher charges to offset service if necessary, and for the central shopping stores.

The mail-order organization has been referred to in previous chapters. Buying is usually departmentalized. The advertising department, which gets out the catalog, is important. Departments are given space in the catalog according to the volume of sales and profit from the department, combined, of course, with an estimate of potential sales for the department.

HOUSE-TO-HOUSE SELLING

Canvassing, or "specialty salesmanship" as it is called by its exponents nowadays, is another familiar type of distribution. It is especially active during the summer vacation season, when numerous deserving students are out accumulating the wherewithal to go back to college next fall. The author sits at home preparing this manuscript, and has answered the door-bell, probably twice daily, to tell house-to-house salesmen of various types, that "No, he or his wife did not need, today," automobiles, silk stockings, vacuum cleaners, nursery stock and landscaping service, life insurance, magazines, books, child-training courses, brushes, soaps, and patent medicines, to name only a few. But he did buy a patent can-opener, rather contemptuously regarded by his wife, and he notices that his wife has made several purchases at the door in the same period.

Canvassing lends itself particularly well to the distribu-

tion of new or unaccustomed articles or those requiring special demonstration which the average retailer is not equipped to give, such as oil heaters for houses. As vacuum cleaners and washing machines become better known and regularly called for, it is noticed that regular agencies, such as the public service stores or specialty or furniture stores, find it profitable to handle them.

Canvassing will nearly always disclose and secure some purchasers who otherwise would not have thought of buying, but it is necessarily an expensive method, for several door-bells must be rung for one sale, and skill and effort are necessary to put the customer into a buying mood. When he or she comes to the retail store, the preliminary selective process has already been gone through with, and the buying mood is present.

Where selected lists of prospective users are obtainable and where the price is large, as in subscription book sets, pianos, or automobiles, the percentage of sales will probably continue to justify canvassing. Life insurance probably would seldom be sold if left to the initiative of the insured. He needs to be reminded of his obligation to his family and told, inescapably, "Do it now. Only the other day I called on Brown. He said 'Come back tomorrow.' Tomorrow came, and Brown was dead—didn't leave a cent. His widow is taking in washing."

Closely allied in functional classification to this type of distribution is the humble peddling in which the actual goods are carried from door to door.

Door-to-door canvassing may be an excellent training school for other types of salesmanship. The writer was acquainted with one highly successful manager of a firm of consulting appraisal engineers, who got his salesmanship training and his experience in dealing with human nature, largely from an apprenticeship with a traveling horse doctor who sold his remedies on his trips. William Wrigley, Jr., also got a part of his early training in the rough-and-ready school of selling soap and newspapers.

The organization of this plan of distribution must include such factors as advertising for, securing, and training, agents. The training may range from furnishing a sheet of printed instructions to a regular school, in which the candidate memorizes the answers for all conceivable objections and is taught, by demonstration and practice, how to meet all ordinary situations. At the risk of giving a false impression of what is really a large-scale and useful business, the author cannot refrain from mentioning the instructions given a one-time book agent, now dean in a well-known university, on the value of a suddenly opened large umbrella, required to be carried as part of the salesman's outfit, in repelling savage dogs at farmhouses.

A plan of compensation must be worked out, usually on a commission basis. With some well-established businesses where salesmen find a satisfactory permanent career in representing the company, drawing accounts are sometimes allowed. Shall the agent pay for his demonstration outfit or shall it be furnished free? How may the responsibility and standing of applicants for agency be determined? Some companies utilize the services of local, amateur agents, relying on their acquaintance to secure sales. Others specialize in employing college students. Others use none but experienced workers, often of a very high order of skill and earning capacity. Men are preferred in some lines, women in others. Shall the salesman collect payments or shall the customer remit direct? If the former, shall salesmen be bonded? Shall goods be delivered by the salesmen, or by the company? Local ordinances as to licensing of peddlers and vendors must be known and complied with. These are some of the questions of organization to be met in this plan of selling. Often a crew of canvassers, under a sales manager, will systematically work a territory one section at a time.

Somewhat related to canvassing is demonstration, which is really house-to-house advertising. Here no sales are made, the customer being referred to the local dealer, but a

trained demonstrator calls on the housewife, pleasantly explains her errand and asks permission to demonstrate the merits of a baking powder, food product, toilet preparation, or other article. This method has been extensively used by the Calumet Baking Powder Company in connection with other forms of advertising.

THE RETAIL STORE

There are many types of retail stores. We may include in the list the specialty store, the convenience store, the general store, the department store, the combined service and selling agency, such as the garage. According to type of management we may also distinguish the single store, the chain store, the factory agency. Similar in some merchandising features, although not classed as stores, are a variety of dispensers of services such as the repair shop, the real estate broker, professional services—legal, dental, and medical.

The bookstore, furniture store, shoe store, dry-goods, clothing, music, hardware, paint, and art stores illustrate what is known as the specialty store. These may possess some features of other types, and in general the types blend with each other in all imaginable degrees and combinations. Thus the hardware or dry-goods store is often in part a convenience store, carrying miscellaneous small items such as seeds, musical instruments, and so on. Generally, however, the specialty store confines its activities to one class or type of merchandise. It bases its selling appeal on the wider selection and more expert service and guidance in buying, which it furnishes the customer. Following the distinction made in Chapter IX between convenience and shopping lines, the specialty store usually carries shopping lines of merchandise. In buying a piano, material for a dress, a rifle, or a set of furniture, the purchaser usually has given the purchase some thought and is willing to go to some trouble in selecting it. Often the purchaser wants to com-

pare values in two or three stores. Convenience goods, on the other hand, are bought on impulse usually, at the handiest place. Men are apt to buy in this way. Specialty stores, belonging like the large department stores, in the shopping classification, are usually found in the main shopping centers of a locality, where they are accessible to the largest possible clientele. Where they exist as neighborhood stores they tend to take on the characteristics of the convenience store, adding side lines, and so forth.

THE CONVENIENCE STORE

The drug store is the most striking example of this type of store. It has evolved from the old apothecary's shop almost into a general store. On its shelves and at its counters will be found drugs, patent medicines, perfumes and toilet articles, ice-cream and soft drinks, toys, stationery, pens and pencils, electric light convenience fixtures and utensils, sporting goods, books, magazines, safety razors, with an occasional sprinkling of Navajo rugs, typewriters, and Florida orange and pecan grove real estate to mention only a few of the lines sometimes carried. In the same class, although also specialty stores in another sense, are the grocery and meat market, the candy store, the neighborhood hardware store, the cigar store, the five-and-ten-cent store, and barber shop. Shopping goods are sometimes carried, but in the main those things are sold which are wanted in a hurry or are so standardized (like collars) that there is no inducement to look around or compare prices. With this type of store the object is to get near the buyer when he is in a buying mood. Such stores will therefore be found in the little neighborhood shopping centers which are an increasing feature of modern urban life, or at intersections of street-car lines, or next door to theaters or popular department stores, or on the streets used by commuters in going to and from work or by travelers.

A manufacturer making convenience goods will follow

a policy of extensive advertising to familiarize the public with his brand, and will then seek as extensive a distribution as possible for the article. The more stores carrying it, the greater the volume of sales. The Ford Motor Company has reached the point where the car and its price are well enough standardized and known to have taken on some characteristics of the convenience article, and has increased the number of its distributors correspondingly.

On the other hand, with an article in the shopping class, such as the more expensive cars, it may be profitable in some cases to assign exclusive selling territories to local dealers, making it worth their while to push the sale aggressively. While habit or custom is a bar to a contact with some of the customers of other firms, where the article is sold exclusively by one store, the interest in securing the best value for the money will be sufficient to attract most of them to this store, if the customer is effectively informed by advertising of the advantages to be derived from the purchase of the article there.

THE DEPARTMENT STORE

The department store usually finds its origin in the general store. As business grows, the clerks in the millinery, shoe, cloak, and other departments become buyers and department heads, and the store really becomes an aggregation of small semi-independent stores, separately managed in detail, but under a common roof, and served by a common delivery, financing, advertising, and executive service. Charges to the department are, in fact, often made on a *pro rata* or measured share of these common expenses. Thus the department is charged for its advertising in newspapers and in the store magazine, and pays rental for space used for window displays. An interesting illustration of the nature of the department store as a group of independent units is given by Leiter's Department Store, in Chicago. The Leiter Building was occupied for many years by Siegel

Cooper and Company, which finally went out of business as the result of an unfortunate expansion scheme involving the opening of a new store which did not succeed. For some time the store stood empty. Then it was opened for the disposal of surplus army and navy supplies, the stocks being sold for a while by agents of the War Department. At the conclusion of this sale, with a sort of good-will and habit of thinking of the store as occupied, again built up, space was leased on various floors to smaller dealers, who operated under their individual firm names, with "The Leiter Stores" as a collective designation. These stores were later merged under one management.

Some features of department-store management were described in Chapter II. The organization usually includes a merchandise manager and a store superintendent, in addition to the customary general executive officers. The activities of advertising, buying, and selling are under the control of the merchandise manager. Accounting, credit, and general bookkeeping may be under an officer of the company, as the treasurer, or under a comptroller or chief accountant. Supervision of the store, as to discipline and protection against theft and as to the maintenance of mechanical and cleaning services, is the responsibility of the superintendent. Employment work, delivery services, and the management of stockrooms are also usually in his charge.

The department store enjoys the advantage of size, in the reduction of general expenses, such as general advertising and clerical, delivery, and store administrative expenses, stock-room service, and so forth. It can afford non-profit service features such as restaurants and attendants, impossible to the specialty store. Size also enhances its general prestige. On the other hand, size means in this case less than one would expect in buying merchandise, for the purchases of the store are made by many separate departments and in many markets, and the individual purchases of furniture, suits, groceries, and so forth, may not be as large as those of a fair-sized specialty store. Because of

this limitation, the department store usually has to confine its lines mainly to those called for by the average customer, and, with some exceptions, does not carry a wide range of goods designed to appeal to the most exclusive and profitable classes of buyers.

The department store enjoys a special advantage in the field of shopping goods. Here under one roof are hundreds of lines of articles, with a large selection of competing brands in most lines. The woman shopper, by comparing prices in two or three large department stores, can make, in one afternoon's shopping, purchases which would require dozens of visits if selected at specialty stores with equal attention to selection.

The department store lacks the elements of personal attention and acquaintance which favor the smaller dealer, as do also the chain stores. To offset this disadvantage the department stores generally attempt by more elaborate services to create an atmosphere of interest. Sometimes they succeed with this very well, as in the Marshall Field and Company retail store in Chicago or Wanamaker's in New York. At other times money is unquestionably wasted and services taken advantage of.

Some of the department stores have placed the emphasis, as do the chain stores, on economy as a substitute for the personal element. The Boston Store, in Chicago, seems to have followed this policy successfully. Charge accounts have been done away with, expensive store trimming, rest-rooms, leisure and space have been sacrificed in the main and the emphasis put on the bargain argument.

The changing life of our large cities offers some problems to the department store. The enormous congestion of traffic resulting in big cities from the use of the automobile tends to keep people outside the shopping center. Where the shopping center and the office center coincide, as they do in many cities, this congestion is emphasized. The result has been that in the last few years neighborhood stores have been growing much faster than the large de-

partment stores. Once people get the habit of satisfying their needs at the local store, trips to "town" become more and more occasional. The increasing population of the cities and increasing density of the apartment population, of course, support local centers where previously there was not enough business to support a store.

CHAIN STORES

The movement for taking the merchandise to the people is well illustrated by the growth of the chain store, which is today so conspicuous a merchandising development. The typical early steps in the cycle of developing a chain store are that the owner starts out with one store, succeeds with it, decides to start another, and puts a relative or trusted employee or partner in charge of it. If he succeeds in solving the problem of managing two stores, and makes money, other stores are added one by one. A special supervisory, delivery, storage, buying, accounting, and executive organization is developed, methods of window trimming and accounting are standardized, collective advertising may be resorted to, the store front is often given a distinctive color or character. Buying is usually done by the central organization, often to supply a storehouse, from which local stores order as needed. The local manager is often free to buy from independent sources if he wishes, or is given a catalog from which he selects staples and novelties offered by the central supply organization, which he feels will sell. Thus the custom of the Woolworth stores is to acquaint the local store manager with the selection offered by the general management and to recommend novelties. No special effort is used to push or force sales. An article is put on display; if it sells well, more space and stock investment are given to it; if it does not, it is not repurchased or is supplied in smaller quantities.

The ownership organization of chain stores varies greatly. In probably the majority of cases the store manager is a

salaried employee, with a bonus or store profit-sharing arrangement. In some cases, however, the local stores are incorporated separately, some of the stock in the local store being owned by its manager. The United Drug Company, proprietor of the Rexall trade-mark, is largely owned by a federation of independent drug stores, not more than one in a trade center, each of which owns stock in a central company, which manufactures and wholesales druggists' supplies, and permits the use of the Rexall trade-mark by the local store. An information service is given and a uniform style of store front and trim are adopted as far as possible.

The United Cigar Stores own their own stores in the larger cities, leasing or buying the site, and employ hired managers. In the smaller towns they give agencies to local cigar dealers, who are permitted to use the company trade-marks, and so forth, in return for purchasing the company's merchandise.

Probably the most extensive developments in the chain field have occurred in the grocery field, the larger companies operating thousands of stores, in nearly every shopping center or town in the country. Chains are also met with, however, in the dry-goods, furniture, restaurant, hotel, cigar, men's and women's clothing, jewelry, "army and navy," cut flower, photography, candy, beauty parlor, drug, gasoline supply station, radio, theater, haberdashery, optical, lumber, coal and ice, and public service businesses, to mention only a few.

The chain store has a very definite advantage in the large volume of business, all in one line, which it secures, which enables it to purchase at rates often below what the large wholesalers receive. Like the mail-order house, it often develops its own brands, which compete in the store with the advertised brands which it carries. Out of deference to their other customers, of course, some manufacturers do not sell either mail-order or chain stores, or if sold at all, do not permit the use of their advertised brands. This, however, is by no means universal.

Although the chain store does not have the opportunity to develop much personal good-will, it secures a collective good-will, very valuable in these days of a population which moves often. Wherever a customer goes, he is apt to find the familiar restaurant, or red front store and recognized window display, of the chain he used to patronize in his former location. Recognition brings with it something of the warmth that comes with meeting an old friend in a strange locality, and his trade is clinched again before other stores have a chance.

The chain store is at a disadvantage in respect to the personal service and interest of the manager, who, as an employee, will hardly put the interest into pleasing customers that the local proprietor does. Or if the manager does cultivate a local clientele, he is apt in a year or two to try to take it with him to a store he starts for himself. The element of close personal contact is also missed in selecting goods for which there may be a profitable local demand, but which are not wanted at all stores. This disadvantage is partly remedied by allowing the local manager a limited discretion in purchasing, as mentioned.

To offset these disadvantages there is the large advantage of the skilled staff and functional organization. The chain store is able to develop and instruct the local salesmen in the best methods of window trimming, accounting, and store management. Its management is alert to give every branch the benefit of new ideas developed by the staff or by other branches, and while it may not succeed in securing the highest degree of interest and diligence, these qualities are often more uniform under supervision than with the small proprietor, who is often an indifferent and uneven supervisor of his own activities.

MANUFACTURERS' STORES

Manufacturers' stores are often, in effect, a chain system of stores, owned and managed by the producer. Un-

less the manufacturer elects to go into general business, this type of store is most commonly met with where the manufacturer makes practically the complete line, as in the shoe stores and piano stores. As mentioned in a previous chapter, the manufacturer's store may serve as an experiment and contact point for keeping the factory in touch with the consumer. It, of course, renders the manufacturer independent of jobbers and dealers to the extent that it furnishes an adequate outlet, but it results usually in cutting off his sales to other dealers in the territories served. In other respects it is subject to about the same advantages and disadvantages as the chain store, plus the fact that it takes a good man to run two practically independent businesses of such different natures as production and merchandising, each tending to absorb executive attention.

COOPERATIVE STORES

This particular type follows one or another of the types named in its general features, except for ownership, which was discussed in Chapter VI.

STORE MANAGEMENT

It may be well to summarize briefly some of the various features of store management discussed in the appropriate chapters. The specialty store is usually of centralized type, the buying being done for the store as a whole by a buyer or a buying committee. The store will include a buyer and manager combined or separate, sales clerks, bookkeepers, delivery service, and store janitor service. Advertising and window trimming may be done by other employees, or by specialists hired for the purpose.

In the larger stores and department stores the departmental type of organization is generally employed, with central accounting, receiving and storage, delivery, financial, employment, janitor and service, supervisory, adver-

tising, and executive departments. A typical organization is shown in Figure 3, page 30.

The principal problems of retail-store management are in the main those of the "typical business." They include location, financing, the important question of right buying, arrangement and display of merchandise, store or plant upkeep and service, methods of building up sales and goodwill by advertising, reliable service and quality, price-making, selection and training of employees, credits and collections, the devising of a suitable clerical and accounting system, the organization of ownership, and questions of organization and general policy.

Studies have been made by the business research bureaus of Harvard University, and of Northwestern University, by *System*, and by other agencies, of the costs and statistics of doing business in various lines of retail trade. The credit departments of large wholesale houses also are able to furnish much useful information. It is a wise plan for the retailer to familiarize himself with these figures, in order to have some standards by which to judge his efficiency and position as regards turnover, gross profit, operating expenses, net profit, distribution of assets and liabilities, and other vital items. Within certain limits of variation these expenses and ratios tend to be about the same for similar well-conducted businesses. They furnish a good objective index of the efficiency and strong and weak points of the business. As Cherington¹ says, there are few valuable secrets today as to marketing methods, and the costs of marketing tend to become standardized and uniform.

¹Cherington, Paul T., *Elements of Marketing*; The Macmillan Company, New York, p. 55.

XXVIII

SELLING AND ADVERTISING

Selling and distribution. What is behind the sale. The art of selling. A danger in "high pressure" salesmanship. The hearing. Interest and desire. Consumer selling. Sensory appeals. The social and imitative impulses. Other appeals. Closing the sale. Advertising. Suggestion. Attention. Relative attention values. Repetition. Advertising mediums. Measuring the results of advertising. Other uses of advertising.

JUST where to draw the line between selling and distribution is a difficult matter, for the two are largely complementary and interdependent. Distribution is the system of channels provided for the flow of goods from producer to consumer; selling, the force or pressure that produces the flow. The intensity of the force required may be measured roughly by the relative supply and demand situation, being greater with excess supply, as a pump requires more force to work against a high head or pressure, than against a low one.

If supply and demand were exactly adjusted and static, selling would not be necessary and one very large expense inherent in the present economic system would be eliminated. In this country domestic help for years has been scarce, and here the initiative in advertising and in persuasion is usually taken by the buyer, or employer of the help. As supply increases relatively to demand, competition becomes keener and greater efforts and skill are required to sell. According to the laws of population, pressure of population on the means of subsistence is a normal and unavoidable condition, and the man who has services to sell, or the product of services, must expect most of the time to feel the effects of competition, to move his goods, in other words, against a certain amount of pressure or head. This tends

to be true even in lines where there is a monopoly. Invention and organization have greatly increased man's productive capacity, and today in America especially the individual's buying power has increased rapidly. It is limited, however, and with only so much to go round, if one expenditure is increased others must be reduced. Thus there is the direct competition between similar articles offered by various producers and distributors such as two makes of fountain pens, a less direct competition between substitute articles such as coal, gas, oil, and electric current, or between summer resorts and the automobile, and a still less direct competition between all the objects of individual expenditures. It is believed by many that the tremendous popularity of the automobile has reduced the demand for expensive houses, furniture, and even clothes. Competition and survival of the fit seems to be nature's law of progress, and the business man apparently must resign himself to meet competition, to engage in that struggle for business whose hardness is only mitigated by the regulative forces of society, of law and of public opinion, and by the principle of cooperation, which is the basis of all tribal and social progress.

The art of selling is only one form of the art of persuasion which is inseparable from all human leadership. It is a method of influencing men to take certain courses of action, and as such finds its basis in a knowledge, practical or both practical and theoretical, of the motives that impel men to action, and a use of this knowledge in consummating a sale. In practice the average salesman tends to learn to use certain approaches and arguments, and many having thus learned their trade, as it were, settle down to it as to any other routine trade. This common type of selling is, in fact, routine work much like that of many skilled factory workers. It is generally better paid, however, because the outside salesman must to a larger extent act independently of orders and supervision, and particularly because of the robustness or vitality of will required continuously to absorb the opposition met by the salesman.

WHAT IS BEHIND THE SALE

The actual consummation of the sale should be really only the last step in a long series of preparatory steps, which have been touched upon in previous chapters. Dependable, standardized, uniform production of an article adjusted to its market must have been attained. Finance and general internal organization must be adequate to meet the demands laid upon them by selling. The individual efforts of the salesman should usually be only one part, the final part, of a systematic study and analysis of territory, of market and sales possibilities, and a systematic, organized, and persistent campaign which backs the salesman's call by advertising and other preparatory work, furnishes the salesman with leads, and information as to where to call, and supports the sale by prompt delivery, by good clerical, correspondence, and accounting service, by quality of product and by continued advertising support. The comparison of the salesman to the soldier in the front-line trenches is an old but good one, and just as there may be individual feats of daring but no sustained victory without an adequate support of the trenches by barrage, by the services of supply, and behind these, by the industrial organization of the combatant nation, so does continued success in selling depend on a similar organized and continued support from the rest of the organization.

In proportion as this support is effective, salesmanship becomes easier and requires less unusual men for its services, until in the large, well organized and established businesses, advertising, price, quality, and service attractions and other good-will factors have so lowered the pressure against which the flow of production must be maintained, that the work of selling may be acceptably performed in large part by order-takers, by salesmen, in short, whose principal function is to call for orders the customer has already made up his mind to place.

In retail-store selling the average compensation of the

sales clerk or salesman is generally lower than that of the man on the road. This can be explained partly by the fact that the salesman works inside, under direct supervision, but more largely by the fact that the order-taking type of selling suffices in many stores. A large part of the possible demand is natural and does not need to be created to any large extent. Advertising, location, and prestige created in various ways are depended upon to secure for any store its share of the trade. This is not to say that it is not possible or profitable to increase this natural and passively secured demand. Men's furnishings salesmen, for example, are nowadays instructed to ask the customer who stops in perhaps for a collar, whether he does not need shirts also, or does not wish to avail himself of today's special sale of ties, and commissions or increased compensation are usually given to stimulate such initiative on the part of the salesman. Basically, however, retail selling is in the main passive, requiring as a minimum only a limited exercise of true salesmanship, even if affording play on occasion for much greater skill.

House-to-house canvassing requires, for successful selling, a much larger measure of sales ability, since here the salesman takes the initiative. This is one of the reasons, as mentioned in the previous chapter, why it is usually a more expensive method of distribution than the retail store except for new or unaccustomed articles for which the passive type of selling is inadequate or in which it costs too much to induce the customer to come to the store for the article.

Wholesale or traveling salesmanship also makes larger demands on the salesman's initiative.

THE ART OF SELLING

The task of the salesman may be analyzed into three steps. He must disarm suspicion and secure a hearing. He must awaken interest in, and desire for, the article. He must crystallize desire into decision and action. A fourth step should be added, since an enduring business cannot be

built without good-will and repeat orders. The salesman, and the whole organization behind him, must see to it that the customer's anticipations are realized by the article sold, that he is satisfied and pleased with the results of his purchase.

Successful selling, while it makes use of reasoned demonstration, goes back of reason to impulse, to those motives of action which derive their force from desire, from instinct, from all the subconscious or half-conscious motives which the psychologist tells us dominate human action. Thus a man buys an automobile, and justifies or "rationalizes" the action by pointing out to himself the fact that his time is valuable and that the automobile will conserve it and thus be an economy. Perhaps this is actually the case. In the sale of most producers' goods, in which class a doctor's automobile would probably be put, the primary appeal is to the economic motive, which only indirectly reaches the real desires and impulses of the buyer. But it is quite as likely that the salesman's experience has told him that the prospect wants the car but needs some sort of justification so that in buying it he will not damage his idea of himself as a severely consistent man of business, so the salesman provides the highly flattering suggestion which covers up the real motive in the man's mind. Perhaps Brown really bought the car because of the mental picture of himself casually picking up neighbor Jones on his way to work, and listening to the latter's admiring comments. Perhaps Mrs. Brown really had the deciding vote.

A DANGER IN "HIGH PRESSURE" SALESMANSHIP

It is possible by a sufficiently shrewd and skilful play on these primitive emotional impulses, given a naive victim, to sell him almost anything, the Woolworth Building or Brooklyn Bridge, for example. The danger of sales of this type is that they do not stay sold, or permit of repeat orders. All successful salesmen use their knowledge of human nature in

making the sale. The test of their judgment in using it, is whether or not it has served merely to smooth the way for a sale which the customer's sober after-judgment confirms as sound and to his interest. The salesman who uses his skill to trick or rush a customer into an ill-advised purchase not only injures the customer economically, but offers a much less easily forgiven affront to the latter's self-esteem.

THE HEARING

The first step in making a sale is to gain a hearing. Where salesmen's calls are few and the prospect is not busy, the case is occasionally reversed, and the difficulty is to get away from a talkative customer. But busy people usually surround themselves with barriers against intrusions, and the salesman may have to run the gauntlet of quite a formidable battery of information clerks, telephone operators, and private secretaries. The methods used to secure an audience vary with the class of prospects dealt with. Professional buyers as a whole are liberal in giving an audience, since it is to their advantage to keep informed as to their markets. Occasionally one is found who gratifies his sense of importance by allowing the salesman to "cool his heels" until a duly submissive state has presumably been induced. Executives are harder to reach, and it is often necessary to arrange the preliminary steps carefully by previous correspondence, in which the proposition is stated in terms sufficiently general to awaken the prospect's interest in succeeding stages of the demonstration and sale.

But after the salesman is face to face with the prospect there is a still more formidable bar to be overcome. The natural instinct toward the stranger is suspicion. It is met, often in an aggravated form, by the consulting industrial engineer on a new organization job, or by the new boss, or by any one called upon to make a contact with people unacquainted with him, in any capacity which might conceivably affect their interests. It often persists, if not success-

fully removed, even after every objection the prospect can think of, has been answered. One often senses a concealed opposition of wills in this initial encounter. It is easier for the prospect to be rid of the salesman than to listen to his arguments, to acquaint himself with the product, to undergo the pain of a decision. So the prospect may use the first opportunity to trip up and dismiss the timid salesman, to catch signs of hesitancy. In fact, lack of self-confidence suggests suspicion. Assurance and quick wit are therefore important in the salesman.

Acquaintance removes suspicion, and it is often necessary to call several times on a prospect, until the latter comes to feel habituated to and acquainted with the salesman, before full confidence will be given.

Advertising has proved very effective in removing this feeling of strangeness and suspicion. The advertisement is read in a more or less passive mood, it arouses no opposition if properly worded, for the reader is under no pressure to make a decision, and it leaves its suggestion of action, and its sense of acquaintance and recognition, to mature unopposed, and to eventuate in a sale at some later date. It is a great help to a salesman in calling on a retailer, if the latter is already acquainted with the salesman's goods or his firm, and one important by-product of advertising is its effect in producing on the dealer this impression of feeling acquainted with the firm and its goods. On the consumer, the effect is similar. "Consumer acceptance" is that state of mind produced by advertising, in which, when the customer is shown the goods, he recognizes them favorably, the bars of suspicion of the unknown having been removed by advertising. He may not and probably does not realize that his only acquaintance with the article is through the advertised statements of the maker.

In addition to this form of advertising support, the salesman uses various other methods of removing suspicion. Contact is easiest when the salesman shares the general tastes and habits of his customers, dresses in a style they

are accustomed to, is interested in the sports they enjoy, has perhaps had experience in the work they do. Mutual acquaintances, mutual lodge membership, even common nationality may be the slight bond necessary to make the customer feel toward the salesman, "He is one of us, and may therefore be trusted."

Another means is to make the prospect forget his suspicion in his interest in the article, or in the salesman's talk. Thus the dexterous canvasser of kitchen-ware excites the housewife's curiosity by asking for a fruit jar or a potato, and before she has had time to think about the fact that he is selling something, has her absorbed in watching the marvelous ease with which the patent can-opener unscrews obstinate covers, or the combination fruit knife cuts fancy Saratoga chips. Curiosity, group suggestion, humor, are all made use of for this purpose.

Suspicion may be removed by some form of demonstration or special inducement. The sale may be made conditional on inspection, approval, and perhaps trial of the goods. Warranties may be given. Testimonials from people known to the buyer, or lists of buyers known by him, are often effective. Samples may be distributed, or the goods left on trial, or special introductory terms at bargain prices, given. Statistics may be used to show the extent to which others are buying.

Buyers differ greatly in their reaction to the sale talk. Some buyers maintain throughout the interview an open but appraising attitude, listening to what the salesman has to say, and weighing the article on its merits. Others dislike opposition, like to talk themselves, and all that may be necessary to make a sale may be to listen politely while the prospect tells about himself, and expands into a warm glow of self-esteem. Others are easy-going and compliant, others habitually negative and suspicious. Outside influences affect the buyer's attitude, and with important calls some attention may profitably be given to choosing a time at which the prospect is likely to be at ease.

INTEREST AND DESIRE

Here there is a fairly sharp distinction to be made between the methods used in the sale of producers' and investment goods, and the sale of consumers' goods. In the former case the appeal is primarily an economic and reasoned appeal, although the instinctive or impulsive motives may be used incidentally. In the latter the effective appeal is apt to be the one that goes direct to the senses or the emotions and desires.

The traveling salesman, in calling on the producer and attempting to sell him a bill of goods, has the task of convincing the latter that there is a profit in the transaction greater than that to be obtained by some other use of the money. With the experienced buyer of the big mail-order houses, for example, or with large users of printing or of other producers' materials, dollars and cents demonstration is the convincing and almost the only argument. The task of the salesman is to present effectively all the arguments, price, service, dependability, established demand, delivery, quality, and so on; to know his product well enough to answer objections; to know the general producing situation well enough to speak definitely on deliveries, qualities, and prices. If one has the facts, sale to such buyers is usually easy, for they usually decide at once when the advisability of purchase is demonstrated.

The retailer, as a prospect, lies between the large professional buyer and the consumer. With him also the theoretical goal is demonstration, but practically he is often a small and more or less unmethodical human who may respond to other than strictly economic motives. He tends to take the path of least resistance, and ease in selling is a powerful argument. In fact, while a certain number of retailers will always become sufficiently interested in an article, either because of superior merit or superior profit, to push it actively, as a general thing the driving force to sell a particular brand must come from the manufacturer or

wholesaler by advertising and other means. In the average store, sales are made by clerks with no direct financial interest in profits, or by small proprietors, and the tendency is to sell what the customer calls for.

Other motives also influence the retailer. Personal friendship or habit of dealing with one house are often weighty. Sometimes the retailer buys because his interest has been caught by some clever mechanical feature, some trick of demonstration, or by a simple primitive attraction for a fine tool or piece of workmanship. There is a certain thrill in ordering and unpacking a big shipment, a sense of action and importance, that unquestionably often tempts a man, once he has made up his mind, to buy in larger quantities and variety than he might otherwise have felt justified in doing.

CONSUMER SELLING

In consumer selling we again meet a slight analogy to the distinction between economic and non-economic motives in buying, although even the most utilitarian purchases by the retail customer are apt to be colored by emotional elements. In selling bonds or bedsprings, flour or furnaces, or the other more prosaic necessities of life, the decision is apt to be the result of a more or less uncolored weighing of advantages with the economy motive uppermost. Yet even here the health motive, the pride of ownership, or a similar appeal may connect the decision directly with the more powerful emotional motives.

Photography has long been a hobby with the author, and a display of camera equipment will bring him to a stop at a window in a crowded street, as quickly and as automatically as a semaphore will the engineer of a locomotive. And from past experience the author knows that it is well not to stop too long, lest some particularly expensive and captivating bit of equipment pass beyond the stage of interest and awaken a desire that, futilely opposed by motives of caution, will

finally in some unguarded moment lead him into the shop to buy the coveted accessory.

Once interest is captured and desire awakened, the sale is nearly an assured fact. The salesman's task is capture and awakening, and this requires a knowledge of the motives, general, and particularized as to product and prospect, which lie behind selling.

SENSORY APPEALS

The senses may be directly appealed to. Display of the handsome car, pleasure in its beautiful lines and finish, or the attractive color combination in a hat or a suit fabric, may be the detail that catches the interest, and the art of the window dresser is turned consummately toward bringing out the sheen of the oriental rug, or by effective contrast and emphasis, the richness of furs, the beauty of fabrics. "The Ham What Am," juicily pink and all spiced over with tempting brown clove-sprinkled crust, makes our mouths water as we pass its likeness on billboards, leaves an unsatisfied impulse which builds up until the sum of the impressions is strong enough to suggest, "Let's have some ham for lunch. I've been hungry for it lately." So it is with samples of foods, fragrances, the feel of silky fabrics or well-tanned leather, the urge of music, the aroma of tobacco, or the flavor of candies. The sense appeal, direct or suggested, is one of the most powerful in producing action.

THE SOCIAL AND IMITATIVE IMPULSES

The social appeal in various forms is another of great strength. The desire to outshine, to impress, is innate, and lends itself to many types of selling. Equally strong is the desire to imitate, to do what everybody else is doing, the style appeal. A common use of this type of approach is seen in the advertisements which picture prosperous and authoritative persons as using Blank's tobacco or wearing

Doe's suits of clothes. The salesman touches this chord when he names prominent users of the product, or deprecates, with a shrug of shoulders, the purchase of the cheaper suit of clothes.

In this class may be put also the various beauty appeals, effectively used in connection with various soaps, cosmetics, articles of apparel, and so forth.

There has been quite a vogue of late of advertising based on the negative social appeal. "He never knew" why his friends all avoided him—if he had read Blank's manual the social error would never have happened, the painful lapses in conversation would have been impossible.

OTHER APPEALS

Good health, and the fear of losing it, hold very widespread and effective interest. The sheer pleasure of possession, ownership, collection, helps the sale of many articles such as well-made books, golf clubs with the right feel and hang, smooth-working mechanisms, interesting furniture, and all manner of similar objects. A very common method in canvassing where the article permits is to leave it "for trial." By the time the salesman has got back, the prospect has come to think of the article as his own and is unwilling to part with it.

Fear is generally a negative emotion, tending to inhibit action, yet fear is sometimes effectively used in securing action on such things as fire-prevention apparatus, automobile safety devices, and in some health advertising. Love of adventure and of the outdoors, affection for family and pride in children, the appeal to caution, the desire for gain, for self-improvement, the sense of duty to family and community, are all used, nor do these examples exhaust the list.

In the stage of awakening interest the salesman will feel out the interests of the prospect and when he finds the effective interest he will concentrate his selling efforts mainly

on effectively and graphically reaching that interest, using other appeals principally to reenforce the effect of this one. At this point all distracting counter-interests will be kept out of the picture, the salesman is forgotten as the prospect follows his exposition of the advantages of the article, pictures the benefits, the satisfactions it will give. Not the least of the skill of the salesman is in knowing when to stop, knowing when the moment is ripe for decision. Carried farther, there is the risk of interruption or of a loss of interest. Pleasing address, simple, graphic diction and freedom from distracting peculiarities are of aid in holding the prospect's attention at a sufficiently high pitch during this stage of the interview. If outside interruptions make it impossible to secure undivided attention, it is often advisable to wait or to make a new appointment.

CLOSING THE SALE

The need for making a decision is apt to break the chain of aroused interests and desire unless well handled. The old suspicions come suddenly to the surface again, perhaps in modified and diluted form. The prospect reaches for objections, for excuses for not buying, for delay. "Come around again, I may be interested later." "That's a fine little article you have, but I'm not in the market just yet." "It certainly seems to do the work, but I'm afraid it's too complicated and will get out of order." If the objections have been answered before they have been raised, as is the custom of provident and experienced salesmen, the prospect still has a little panicky feeling that there may still be one or two he hasn't thought of.

There are various methods of handling this stage of the interview. One is, once it is recognized that the prospect has made his decision, whether fully conscious of the fact or not, to make the transition to action so quickly and quietly that there is no time for hesitation and panic. Two or three suits of clothing have been shown—generally the

less the better, as each additional one complicates the decision—and the choice has narrowed down on a hypothetical basis to the gray one. “How do you like the cuffs fixed”? or “We can shorten the waist a little”—and before the customer has quite gotten over the fact that the decision has been made, the tailor is over taking measurements. Nothing forced, the customer is free at any moment to say, “No, I don’t think that is what I want”; yet he seldom does if the interview has been handled with judgment.

Another method of closure useful in some cases is for the salesman to withdraw briefly at the moment of decision on some slight pretext. Relieved of the inhibiting uneasiness and fear of being perhaps railroaded into a decision, the prospect has an interval for the quieting of doubts and re-assertion of desire and when the salesman returns the decision is made.

A third device is the time limit or special inducement. This naturally requires tact to prevent closing the door to future sales. But the “special offer good only this month” argument is often effective. “How long would you like us to reserve this opportunity for you? We can hold the agency open for a day or two, but have had other inquiries and would like to have your decision before Thursday.” “Better buy it now, we have only a few left of this pattern and it will take us weeks to get our new stock.”

Another plan is to make action easy. “Send no money.” “A small payment down will place it in your home.” “Money back if not satisfied.” The popularity of installment sales is in part traceable to the use of this appeal, not always, unfortunately, a sound one, as the contract improvidently entered is often repented before it is terminated.

In reality the final decision is simply the culmination of a series of decisions which have been made by the customer, as point by point the reasons for buying have been suggested by the salesman and objections have been answered. If the conclusion of the interview does not bring a sale the reason may be due to natural difficulty or vacillation of the

customer in making a decision, in which case the salesman will use the initiative in ways such as those suggested. On the other hand, failure to secure an affirmative answer may indicate simply that the salesman has failed to convince the customer or to interest him. In the latter case, before the interview is closed the interest of the customer must be secured if possible by a fresh angle of approach.

It may be best to reserve the strongest argument for the close, or quickly to set up again the effective appeal or to picture the prospect using the article or in some other way focus the arguments which interest the customer, as vividly as possible. Several points may be noted as to the management of the interview. The salesman should in general dominate the interview, tactfully bringing the prospect's interest back to the sale when it wanders into bypaths. When the buyer dominates the interview, the result is obviously predictable. The customer should not be contradicted. Some way can be found usually to set the customer right on erroneous statements without arousing his opposition by flat contradiction. Getting into an argument is as bad as contradiction.

Competitors' goods should be avoided in conversation rather than criticized. If comparisons are made by the customer, it is best to stand neutral, admitting that the competing article has its good points, but urging the superior claims of the article being presented. It must not be forgotten that the prospect has been persuaded of the merits of the competing article, has selected it, identifies it with himself to a degree, and resents attack on it as an attack on his judgment. This rule, of course, has some exceptions but holds in the main.

The customer should not be permitted to say "no" until the final decision. In building up the interview it is well to make it impersonal and hypothetical at first. Once the customer has taken a stand, he dislikes to reverse it. The whole attitude should be one of positive rather than negative suggestion, assuming that the customer is interested, likes the

article. The attention of the buyer should be concentrated as far as possible. Sale is more likely if one or two suits are shown, carefully selected after a little preliminary conversation has indicated the customer's size, taste, and price range, than if a confusing variety is laid before him. As soon as his preference has been indicated, everything else should be kept out of the picture.

Throughout the whole interview the attitude of the salesman will be that of attempting to look at it from the other man's view-point, to analyze the causes that influence him to buy. A fault of much untrained selling and of a good deal of advertising supposedly produced by competent people is that the seller never gets away from his own point of view. "Our wonderful success" may, of course, be an argument in certain situations but it may hold no spark of interest to the buyer. The virtues of "my dandy new racing car," or the pleasures of the salesman's vacation in Florida hardly appeal to the little merchant who has never been a hundred miles from home.

Often the only way to find out what really does interest the average buyer of an article is to go over the article with some one who uses the goods or knows them well. A department store manager tells of his analysis of the poor sales in the shoe department. No cause was found until his wife examined the stock, with the comment that they seemed to be selecting shoes for old ladies of seventy. The buyer was a woman of ultra-conservative and old-fashioned tastes.

It is amusing to speculate as to what will happen when all the world has lost its naiveté and the prospective customer perks up his head during the interview to ejaculate mentally, "There, he's using that approach number three on me." The fact is that good salesmanship is not a mechanical use of rules or "approaches." The insincerity of a forced interest, of flattery, of the cynical attitude of "putting one over on him," is felt by the prospect. The rules aid in avoiding mistakes and effectively reaching the buyer's interests, but the best guide in selling is the natural impulse

of a courteous and sincere man, and the only salesmanship which stands the test of time is that which has the ring of a genuine belief and the support of an honest service and benefit to the customer behind it.

ADVERTISING

Advertising is mass selling. It is identical with personal selling in that it attempts to capture attention and to arouse interest to the point of action, and in that it uses the same basic appeals to the emotions, either direct or through the avenue of reason. It differs from selling in that it appeals, not to one buyer, but simultaneously to many; and its arguments cannot, therefore, be particularized but must be such as will have a general appeal. It differs also in that the "interview" is usually much briefer and leaves a less intense impression, and in that advertising is frequently used only to build up the preliminary favorable decision and interest, the other steps being left to direct selling efforts. On the other hand, advertising may be used to carry through the whole process of sale.

The peculiar strength of advertising has been mentioned, namely, the fact that it does not actively arouse the instinct to suspect and oppose. As the prospect is riding home on the street-car, his mind unoccupied, his interest is caught by a picture of a tempting pudding or candy or some other concrete sense or curiosity appeal. Or he or she is looking through the paper with the definite idea of deciding where to buy. Or attention is caught by an interesting advertisement in the magazine, picked up in the evening's leisure hours. The impression goes home, the sense of acquaintance is built up, the argument for the goods, suggested, usually, rather than argued, finds lodgment in the mind, and like other beliefs accepted uncritically, may come to be more tenaciously held than a reasoned opinion. I do not know why I prefer one make of car to another. Perhaps it is the comment of some friend who owns the car, but more than

likely, while my impression is vaguely that somebody told me so, the fact is that advertising has built up the impression.

SUGGESTION

Suggestion is used very largely in presenting the argument. The article is shown associated with symbols of quality, of authority, of good judgment. The message usually is brief, the object is to leave a single clear, vivid impression. An exception to this case is where direct action is sought and the subject is known to possess enough interest to hold the reader's attention. Patent medicine advertisements successfully employ a single bold title to catch the attention, the balance of the advertisement consisting of close-packed columns of testimonial and argument. The advertiser here is sure of the interest of any person with the ailment referred to. The more details of specifications there are for the camera enthusiast or the garden fan to linger over, the more effective is the advertisement. But for most advertising the interview is too brief, the interest too slight, to register clearly more than one impression.

ATTENTION

The strength of the impression made, the effectiveness of the suggestion left, is dependent on the degree of attention secured by the advertisement or by the salesman. In advertising there are a number of factors which influence the attention-value of the advertising. Innate interest of the copy is obviously one factor. The copy should at the very start capture the interest by an appeal to curiosity or a direct appeal to the responsive interests of the prospect, and it should be short, well written, in short sentences and simple words. Unusual words, if pleasing; plays on words, if effective and sufficiently obvious; dialog, may be used to give variety and color and to catch interest.

The mechanical presentation of the copy is also impor-

tant. As an independent unit, the advertisement should present to the eye a pleasing and attractive arrangement of masses of type and illustration, which obeys the laws of artistic composition.

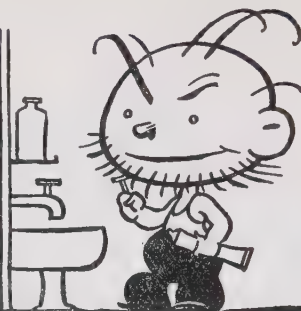
Color and pictures add greatly to the appeal where they can be employed—in fact, one of the most striking and attention-compelling types of advertisement is that in which the whole story is told by the picture, with just a phrase to focus the optical impression and idea into a verbal memory. Motion instinctively catches the eye and is used, as is color, in the big electric signs.

It is not sufficient merely to catch the attention. That could be done by any bizarre or incongruous picture. There used to be in street-cars, advertisements in one corner of which was the picture of a little dog, with a close-coiled spiral spring of fine wire for a tail, which wagged violently with every jolt of the car. It caught the attention effectively enough but the eye never left the little dog to read the advertising, which had little to do with the picture.

Curiosity is often appealed to. A very attractive series of advertisements was run by Colgate and Company in introducing a flake soap, "Fab." First came a fine buoyant wave picture, nothing else. After this had run a week or two the picture was changed by showing a box marked "Fab" floating in the same wave picture. There was at this point nothing to indicate what Fab might be. The series concluded with the original picture, filled in with a brief announcement of a new flake soap, "obtainable at your grocer's." The campaign was well worked out, and was a good illustration also of the correlation between advertising and distribution, for grocers had been given advance information of the campaign and were well stocked when the releasing announcement came.

The intrinsic interest of the humorous or comic, of association with current celebrities or events of novelty may be used to supplement the attention value of the appeal of the advertisement itself.

①
ATTENTION—
secured by
humorous
and unusual
drawing and
copy



The best way out of a scrape — Barbazol

Makes no difference how much your face may pain the innocent bystanders.

It's your own phiz—a birthday present from your folks—and you like to treat it right. Especially in this matter of shaving.

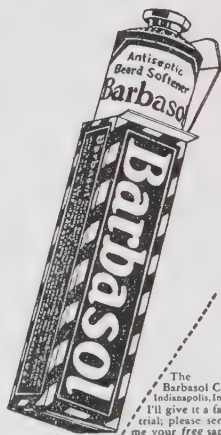
Therefore we make bold to mention Barbazol, the new way of taking the whiskers off and leaving the masculine cheeks and chin as satiny, smooth and cool as a baby's.

Barbazol offers every man a new experience in shaving. It's speedy. It's pleasant. Just wet your face—spread on a film of Barbazol (but don't rub in)—*shave*.

No brush. No rub-in. No pulling. No scraping. No after-smart. Any razor, safety or straight blade. Any water—hard or soft, hot or cold. The natural oils are left right in the skin, and that accounts for the absence of pesky itch or burning. Ingrowing hairs have a way of disappearing from faces that are shaved with Barbazol.

Any face—and Barbazol!—that's all there is to the perfect shave. Especially, if you have a face that calls for a better, finer shave.

The little coupon at the right will bring you a free trial tube. Use Barbazol 3 times, according to directions, and see what we mean by The Modern Way of Shaving.



Shows the
product

②
DESIRE—
arguments
for using

③
CLOSURE—
free trial
coupon
suggests
action now

Barbazol

For Modern Shaving

Return
coupon

The
Barbazol Co.
Indianapolis, Ind.
I'll give it a fair
trial; please send
me your free sample
tube.

Name _____

Address _____

AM 4-10

Figure 37: The humorous appeal in advertising.

RELATIVE ATTENTION VALUES

The copy must also be considered in its relation to its surroundings. It gains by contrast with the prevailing style, provided this can be attained pleasingly. Thus a page in color, or printed on heavier or different paper stock, stands out in a magazine, in contrast to the black-and-white pages. Contrast may be secured by the liberal use of white paper space, or by novelty in arrangement or border, and by other means. Illuminated advertisements or electric signs may possess very great contrast value because of the dark background against which they appear.

Size and position of the advertisement on the printed page affect the attention value, the larger size relative to the page size, having more than a proportionate amount of the pulling power of smaller advertisements. Isolation is a factor. An advertisement in a magazine with comparatively few pages of advertising matter has a greater chance of catching the eye than one lost in such bulks of copy as disfigured the magazines in 1918 and 1919. Association is also important. Not only should the style of the advertisement suggest the dignity and stability of the company behind it, but it should not appear next to undesirable or cheap-appearing copy.

REPETITION

Repetition is used to fix the attention and deepen the impression, yet repetition must not be total or interest may be lost. The interesting pictures, conveying a series of amusing variations of the Fisk advertisement, "Time to re-tire," illustrate the method of securing freshness for an idea persistently repeated. Always unity must be preserved in the variations by the preservation of a characteristic style of advertising, a dominating trade-mark or slogan, or a characteristic personality such as the "Campbell Soup kids." Advertising must be carried on continuously, to be effective, and in sufficient intensity within the territory advertised,

to leave a definite impression on the reader's mind. There is a sort of critical volume and intensity, below which little effect is produced. The intensity is affected by the amount of other advertising and other interests which compete for the reader's attention.

ADVERTISING MEDIUMS

New vehicles for advertising appear from time to time and there is already a great variety of mediums. Among the commonest are the following:

1. Magazines and papers—
 - (a) National magazines, weekly and monthly;
 - (b) "Class" publications such as radio or sport magazines;
 - (c) Professional and trade journals;
 - (d) Newspapers—again divisible according to circulation, class, and so forth;
2. Outdoor advertising—
 - (a) Billboards and signs;
 - (b) Street-car advertising;
 - (c) Demonstrations, free distribution, publicity "stunts";
3. Direct-by-mail advertising—
 - (a) Circular or personal letters, with or without enclosures;
 - (b) Circulars, samples, and so forth;
 - (c) Catalogs;
 - (d) House organs;
4. Dealer helps—may overlap or include the preceding, but distinctive in that the material is supplied to the dealer instead of being distributed or published direct—
 - (a) Store signs and window displays;
 - (b) Cooperative advertising in local papers;
 - (c) Furnishing circulars and novelties for store distribution;
 - (d) Demonstrations.
 - (e) Study courses for salesmen.

Advertising in the magazines of national circulation and newspapers of wide territorial circulation is economical and effective when the effective distribution area approximately coincides with the circulation area of the paper. This type of advertising is often used to support local campaigns conducted cooperatively with local merchants. National campaigns cannot be effectively used where local campaigns must start at different times, as is often the case between north and south. Here the regional newspaper may be useful.

The local newspaper may be an effective medium, although its cost must be considered. The local paper is scanned by many who do not see the magazines, and the advertisements are often more carefully read by buyers. Advertisements of out-of-town companies usually meet less position competition in the local paper than in the magazines. On the other hand, the aggregate cost of space to cover a large number of towns would in most cases be greater than the cost of an advertisement of the same size in a magazine of equal circulation, and the magazine lies on the reading table for two or three weeks where the newspaper lasts only a day.

Direct-by-mail advertising is also an expensive way of reaching a clientele that can be covered without waste by newspapers or magazines. On the other hand, a well-gotten-up letter or circular has the advantage of isolation and may reach the buyer far more effectively than will the magazine advertisement. In either case it is the advertisement's fate that most people will pass it by casually with no impulse to buy aroused, and only a slight impression left. Only the few who are interested or expect soon to be interested in the product, will select it for their attention.

Dealer helps may be very effectively used. They not only create interest on the part of the consumer, but they interest the dealer and gain his good-will and support.

In planning a campaign, it must be decided what combination of these mediums will prove most effective. Often

nearly all are used simultaneously. The Calumet Baking Powder Company, for example, has conducted a very aggressive and successful campaign, making extensive use of billboard and newspaper advertising, of demonstration of the product in homes and stores by demonstrators, of novelties such as cook-books, puzzles, and shopping bags, of dealer displays and helps, and of radio broadcasting.

MEASURING THE RESULTS OF ADVERTISING

Again, the method of analysis of which examples were given in the chapter on cost accounting is made use of in measuring the results of advertising. The problem, however, is a difficult and intangible one, for the results of the advertising are cumulative and not fully capable of direct measurement.

Many companies in direct selling use "keyed" advertisements. Thus the copy will close with the address "Blank Company, Room M-11, 11 Blank Street," for one paper, with "Room M-12" for another. Or some inducement or request will be made to mention the name of the paper. The problem is not as difficult where returns are immediate, such as in special sales advertised by stores. Here a little experimenting with various papers shows the nature of their clientele and the effectiveness of the papers.

Where the product is sold by the dealer and advertised by the manufacturer, returns are harder to measure. Increase of sale may not and usually does not follow at once, and so many factors enter to influence sales volume that much must be left to judgment. The companies with a longer experience, however, have found it possible, by using results over a long period of time and by use of the experimental method of testing copy, to develop fairly accurate guides to profitable expenditure.

The appropriation for advertising is largely made on faith at the start. It may almost be known in advance that part of the money will be wasted in unproductive experiments

before the right appeal is secured and the right combination of mediums worked out. As time goes on it is possible to predict more and more accurately the results of a given expenditure. Thus the makers of Palmolive budget advertising appropriations on the basis of the expected volume of sales of each product, with special appropriations where a new product is to be introduced or sales of an old one strengthened.

OTHER USES OF ADVERTISING

Advertising is being used not only for selling, but wherever persuasion by the printed word is effective. Thus we have campaigns planned in the interest of charities, church attendance and endowments, campaigns for boosting cities, and cooperative campaigns by trade associations for increasing the sale of specific products. One of the growing uses of advertising is for influencing public opinion. Any strike or labor dispute which attracts public attention is likely to be made the basis of a campaign of statements by either side designed to improve the position of the combatant in public opinion. Advertising has been extensively used in recent years by large companies such as the General Electric Company, the Bell Telephone Companies, Swift and Company, and others, to create a public good-will, to emphasize the services rendered by the company to the public, and to combat tendencies toward legislation regarded by the companies as harmful.

XXIX

LABOR MANAGEMENT

The evolution of personnel management. Organization of the personnel department. Activities of the department. Employment—job analysis. Hiring. Tests for fitness. Trade tests. Other tests. Training. Organized training in business. Physical efficiency of employees. Service and social activities. Financial aids. Collective negotiation. Union negotiations. Control and statistics.

It is human nature for a man not to be satisfied with what he has, and the manager of any but a one-man business has the difficult responsibility of providing conditions of employment which will satisfy men who do not always know themselves what they want, and which will enlist their interest and their energies for the common object of the organization. Labor management is not the duty of the employment or personnel departments alone, but every supervisory official, from the president down to the floorwalker, section head, or foreman, has his part in the result. Not the least difficult of the problems of labor management is that of causing all these supervisory officials to see things from the standpoint of the management's aims, policies, and technique of supervision, and to reflect this point of view in their dealings with the men.

There is a vast literature on the absorbing occupation, art, and science of managing men; we can in this book only set forth some of the main elements of the problem, taking them up in four related chapters on the routine or technique of employment and personnel work, wages and compensation, and a brief consideration of some of the elements which contribute to executive control and leadership.

In this subject we meet again an application of the principle of functionalization, again an evolution from the older,

divisional, or self-contained type of management in which each department head was sufficient unto himself in such matters as hiring men. As in the case of office work, there has proved to be an economy in the separation of the more specialized phases of labor management, placing them in the hands of men who have the requisite training and skill for handling them properly.

ORGANIZATION OF THE PERSONNEL DEPARTMENT

In the small business employing less than perhaps three or four hundred men, it would be impracticable to hire, for functional personnel duties, men of a caliber equal to that of the foremen and supervisory officers, who are already handling industrial relations. Nor would there be the volume of work to keep a department of any size actively occupied. In plants of this size, probably the most that would be found would be an employment manager or clerk, who centralized the business of hiring men on request from various departments, and kept personnel records showing the history of each of the employees.

In larger companies, uniformity of policy and better execution are secured if many of the details of personnel work are taken from the shoulders of busy executives, and a separate department is organized, under the direction of a labor manager or personnel director. The labor manager should be a man of major executive caliber, capable not only of intelligently and effectively dealing with men, but of comprehending and contributing to the company's policies from the point of view of finance, production, sales, and public relations. In the International Harvester Company, the position is held by a director of industrial relations, who reports to the vice-president in charge of operations, and who not only supervises the routine administration of his department, but takes part in deciding the company's policies affecting labor. In Hart, Schaffner and Marx, the labor manager is a member of the executive board of the com-

pany. In the Peoples Gas Light and Coke Company, a man, formerly high in public life, acts as vice-president in charge of public and industrial relations. The tendency, then, with very large companies which can spread the overhead over a large unit, is to hire high-grade executives, while smaller companies tend to hire younger, less outstanding men, who act more as assistants in carrying out policies formulated by the managing executives of the organization

ACTIVITIES OF THE DEPARTMENT

The activities of the personnel or labor department may be embraced under the headings: (1) hiring the right man, (2) training him for his work, (3) providing conditions which maintain his physical efficiency in his work, (4) acting as a center for the undertaking and organization of various social and service activities, (5) in many cases, specifically supervising the making of the wage bargain, as to wage rates and as to the machinery for collective negotiation between management and men.

EMPLOYMENT—JOB ANALYSIS

The first step in intelligent hiring is to know what men are wanted. The usual procedure is for the foreman to send a requisition, approved by the superintendent, to the employment department, which then places the requisition on file until it is able to supply the men called for. The requisition will state number of men, occupation, whether job is to be steady or temporary, and frequently details as to rate to be paid, and skill, strength, and so on, required.

In order to hire intelligently, the department must know what is required for competency in the various trades supplied. This knowledge may be had by experience and by conference with the requisitioner, or enough of a hint may be given by the information noted on the requisition. In

a big organization, these methods begin to be inadequate to inform the interviewer of what is wanted, and to supply more comprehensive information, the method of job analysis is often used. Forms are usually printed and arranged to be bound in a loose-leaf note-book, alphabetically arranged. The job analysis will show job name and department, qualifications as to age, sex, nationality, education, trade experience, and special aptitudes and skill.

A punch-press operator, for example, should be able to read blue-prints and should have an elementary knowledge of mechanical principles. He should understand the operation of the press he is to use, including the setting of dies and gages, and should have sufficient experience to have developed the proper synchronization of eye, hands, and feet.

The job analysis will also specify the conditions and nature of the work, whether it is standing, sitting, or moving about, heavy or light, quick, monotonous, dangerous, precise or rough, dusty, wet, hot, cold, greasy, and so forth. Rates of pay, hours, probability of overtime, and general remarks will also be shown. Such analyses are usually made up by a member of the personnel department working with the foreman. They may be made by the time-study man as an incident to his work. They are not limited to factory work, but may be used with equal advantage in selling and clerical occupations. They enable an interviewer, whether experienced in the particular work or not, to put his finger quickly on the essential requirements of a job, with less danger of overlooking something.

HIRING

Assume that the employment division of the personnel department receives a requisition for a punch-press operator. It must next locate a suitable man. This may be possible among the men who come every day to large companies in search of work. It may be necessary to advertise,

by hanging out a sign or running a "want ad." Other employees or the foreman himself may know of a man.

The applicant for work, entering the employment office, is often given an application blank which he fills out while waiting in an anteroom, which is provided with tables, and chairs or benches. A list of "men wanted" may be posted. Eliminating those for whom there is no opening, the men may be examined in turn. The interviewer works from his file of requisitions to be filled, and his job analysis or his personal knowledge. He checks the information on the application and completes it if necessary, explains the nature of the work, pay, and conditions of employment to the applicant, and asks questions tending to reveal the applicant's experience, character, health, steadiness, and general desirability.

If accepted, the applicant may next be given a medical examination, the thoroughness of which depends somewhat on the nature of the work. Men for work at such trades as brass founding, painting, grinding, and others, which may be injurious to health, will be examined with special care. If passed, the applicant is then sent with a guide to the foreman, who applies his own tests as to competency. If these are satisfactorily passed, the employee is given a badge or pass, an identification number, his name is put on the pay-roll, and he is asked when he wishes to report to work. The actual procedure in one large company is shown in Figure 38.

TESTS FOR FITNESS

In hiring a man for a job, we are interested in knowing: (1) his physical and nervous fitness for the job; (2) his experience, training, skill, and knowledge of the job; (3) his general intelligence, quickness, or mental capacity; (4) his emotional attitude and moral code, his interest, anxiety to make good, stability, honesty, loyalty, cooperativeness, and so on. There has been a great deal of interest in the

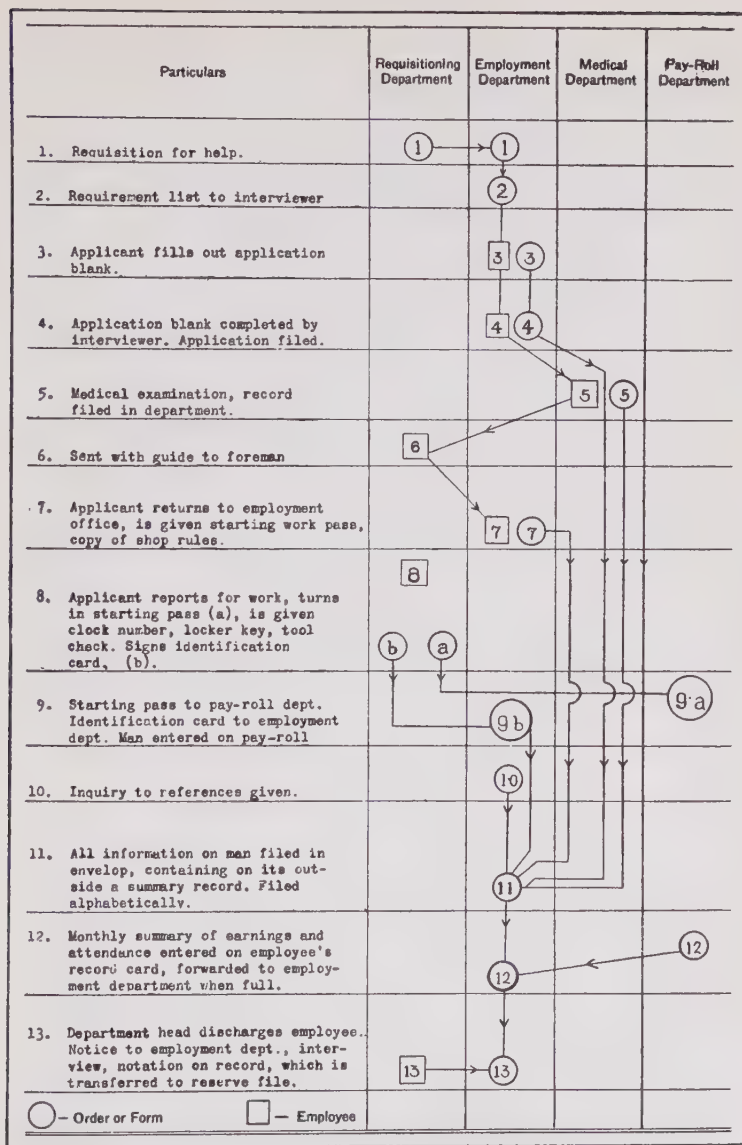


Figure 38: Procedure diagram of hiring in a large company.

methods of measuring the individual in some of these respects, and some progress has been made in developing tests. Medical examination and inspection are sufficient to answer the question as to physical fitness closely enough. Many jobs require special qualities of the nervous system, such as a quick reaction time for inspectors and rapid routine workers, accuracy of muscular coordination for telephone operators, delicacy of touch perception, of taste, of smell, of judgment of sizes and distances and colors for certain occupations. Various special tests have been worked out, showing the presence of these qualities, such as a test for delicacy and accuracy of muscular coordination worked out by Link.¹ Here two metal strips were placed so as to form a long, narrow, V-shaped opening between them. The operator was given a metal rod, and required to move it between the strips, without touching either. An electrical contact was made by touching, and the distance moved between the jaws, or point in the V-shaped opening, gave a measure of the accuracy of coordination. Similarly, the applicant's memory for faces, phrases or figures; his accuracy of muscular coordination; reaction time, and other qualities may be measured by appropriate tests.

TRADE TESTS

The experience of the individual and his knowledge of his trade may be ascertained quite effectively and quickly by specific questions or sample operations designed to show his familiarity with the work. The simple test for typists, stenographers, and clerks is to give them dictation at a known rate of speed, or, in the case of clerks, require the making of a few typical entries. A machinist may be shown a picture of a lathe and required to identify parts, to explain what gears would be used to obtain certain feeds and speeds, and so forth. Questions may be graded so as to distinguish between apprentices, journeymen, and experts.

¹Link, Henry J., *Employment Psychology*, The Macmillan Company, p. 29.

OTHER TESTS

A number of tests of mental alertness have been worked out, such as the army tests. An interesting test, designed to show the presence of mind of a taxicab-driver in an emergency, has recently been worked out by Dr. A. J. Snow for the Yellow Cab Company.¹ The applicant is given a fairly complicated set of instructions, corresponding roughly to the controls required to drive an automobile. He has a foot lever to hold down and handles to manipulate, and is told to do certain things if anything unexpected happens. After one or two manipulations the lights are suddenly turned off and the person being tested is given a slight electrical shock, and his reactions in the artificial emergency are registered.

In the field of emotional reactions, attitude, and moral code, little has been done. We still rely on that judgment of individuals which is developed by experience and observation.

The final and most important test of the applicant is the long test of performance. Few men are hired directly for positions of responsibility; as far as possible, they should be and are selected from among men hired for minor jobs, who have proved their fitness for advancement.

TRAINING

The need for industrial training is felt by the business in two situations. It is sometimes impossible to obtain trained help, and workers must be taught from the beginning. And it is often desirable to increase the skill and improve the workmanship of employees already with the company.

The various organized means of instruction, such as apprenticeship, are really quite secondary in importance to the unorganized, informal process by which a man is grad-

¹Snow, A. J., *Psychology in Business Relations*, A. W. Shaw Company, Chicago, p. 524.

ually trained in any good organization. A word from a fellow workman or a supervisor, habits of punctuality and dependability gradually formed under the pressure of discipline, skill slowly acquired by practice, are the forces that go to the development of the skilled worker and the maturing younger executive. Charles Rumford Walker¹ gives a vivid picture of his experiences as a workman in a brass rolling mill, from which the following excerpt will illustrate how a man learns his work:

I'm on the "pony" rolls with Bill Hartley, roller, who is there now cutting a sample with immense shears. The blocker and helper are beside him, putting on their gloves.

I grab the end of the coil. It has already been mounted on the reel, and at Bill's nod, I shove the end, with something of a lunge, between the two revolving rolls. Several thousand pounds' pressure are applied instantly, and the copper ribbon shoots through, a thirty-second thinner and flat as a strip of Colgate's. Speedily, I relapse into one of the oil-swabbing automata of which there are 12 in the mill. There's a box—a soap-box, a foot-and-a-half high—that I sit on. At my right hand, hung on a wire from the roll-stand, is my bucket of roll-oil.

I dip into the oil in my pail, using a swab half the size of your fist, and streak on—not too much—upper side, lower side, of that moving ribbon. It takes 15 minutes for this bar alone to grind through. Sweep your swab like a paint-brush on the moving metal, top side, bottom side, and then meeting—or almost meeting—the oil-smear of your last stroke.

. . . . I watch the grain in the metal—stained as it is from the pickle-tubs—thinking, How'd you like to be an inspector? Watch for blisters, cracks, humps, foreign impurities, gage—The ribbon of metal swerves a little, coming from the rolls. . . .

For this process of learning and improvement to proceed most quickly, the supervisor should have some of the qualities of the teacher. He should look for and correct faults in method. It is a good plan to analyze a task to locate common faults so that they may be corrected. The supervisor should develop the ability of explanation, of telling

¹"Seven to Six, an Hour Out for Lunch," *The Atlantic Monthly*, August, 1924.

the man just what are the necessary things to secure the result. Many men who do their work well, are very ineffective as teachers, either from native awkwardness with language, or because they have never analyzed the habits which they use and do not know the important elements of the task. And finally, the men must be patiently corrected and shown again, time after time, until the new habit is set and the skill is a permanent acquisition.

Habits of skill are best developed as small elements, one element being mastered and reduced to automaticity before another is learned. In training telephone operators, the girls are organized into classes and put through a training course of about three weeks. First comes a general lecture on company policies and regulations, then an explanation of the operation of the telephone. Then, one thing at a time, the phrases to be used in answering calls, the correct pronunciation of exchange names and numbers, are taken up. Then the class watches a demonstration of the process of answering a call on the "B" board, the simpler of the two switchboards used in an exchange. The girls go from the demonstration to a practice board, where they are given practice calls at a slow, then an increasing, rate of speed, with a supervisor to every three or four girls to correct errors and make explanations. After further practice, they go back to another demonstration, then back to master the "A" board in the same way. Next comes work at an actual switchboard but in a specially supervised exchange, and not till the girl has proved her proficiency is she sent out to an exchange.

E. M. Skinner describes the method used by Wilson Brothers in training salesmen, as follows: The prospective salesman is frequently recruited from among stockmen, or is given a short period of work in the stockrooms until he becomes familiar with the goods. Then he goes out as assistant to a salesman, helping him to arrange hotel and train connections, getting the goods out of the display cases and arranging them, watching and assisting unobtrusively

as the salesman displays them to the customer. After he has become accustomed to the handling of these details, he handles a customer or two, the experienced man standing by if needed, and correcting the new man's methods. Then they work together awhile until the new man has acquired sufficient confidence to go out alone.

The natural and correct way to learn business or a trade is to develop by gradual steps in this way. It is extremely difficult to go back and learn essential things that have been skipped; usually the man learns to cover up the weakness in some way, but it is there just the same. After an apprenticeship of a few years, if the man has in him the makings of a business man, progress rapidly accelerates; he has learned his trade.

ORGANIZED TRAINING IN BUSINESS

What is called the vestibule school is probably the most economical and effective means of rapidly developing trade skill. The telephone school cited is of this type. The method of teaching is based on the plan of mastering the operation in small elements, each made habitual before the next is learned.

This plan is used by the large department stores in training salespeople. An accepted applicant for selling work is given a two- or three-day training. First comes a general lecture on house policies, neatness, courtesy, the art of selling. Then the various sales tickets are taken up—one by one—demonstrated, and the members of the class required to fill them out until proficiency is acquired. Lectures on store rules and the organization of the store are also given.

The older plan of apprentice training is usually designed to take younger boys, indenture them for several years, and give them a supervised training in a trade. The boys are rotated from department to department, come under various foremen, and meet in classes once or twice a week. An apprentice supervisor keeps track of the boys, sees that

they are making progress, and acts as general "foster-father." The plan is probably the best method of producing skilled craftsmen and foremen, but is expensive. A shorter, more intensive modification of this plan, taking about a year, is widely used for training college men for businesses.

Many other means of training, such as classes, correspondence courses, "progress clubs," and so on, are also used.

PHYSICAL EFFICIENCY OF EMPLOYEES

Quite a number of the factors which contribute to physical efficiency — lighting, ventilation, drinking fountains, proper temperature, washrooms, medical examination—have been named. Medical services are often extended to include free consultation services to employees, trained nurses to assist in the absence of the doctor (who may be at the factory or office only for certain hours), health education, trained help in combating influenza and similar epidemics, and dental services.

Another important branch of industrial employment work is the supervision of safety conditions, often by a special safety engineer. This involves both the correction of mechanical hazards and the cultivation of carefulness on the part of employees.

Restaurants or lunchrooms are often necessary where there are no decent eating-places in the neighborhood. Frequently conditions outside the plant, such as a shortage of dwellings or poor street-car service and transportation, require correction.

SERVICE AND SOCIAL ACTIVITIES

Next comes a miscellaneous group of activities, only a few of which are usually undertaken by one company, designed to promote friendliness and good feeling and sociability. Among these activities one might mention hobby clubs, such as the Garden Club of the Peoples Gas and

Commonwealth Edison companies of Chicago, camera clubs, radio clubs, and so on. Group singing is a widely used and popular activity. The writer attended a first-class concert given in a Chicago theater jointly by two singing clubs, men's and women's, of the Illinois Bell Telephone employees. Baseball teams, bowling tournaments, and various similar activities afford an expression for the social impulses always found in a live group of people.

The writer has vivid recollections of one department picnic he attended. It was organized by one of the boys in the shop. "How about a little picnic, fellows, over in Kenilwood next month?" Fine! Ed Demmers and Mr. Denton, the chief clerk of the planning office, were appointed a committee on arrangements on food and transportation. The wives and sweethearts provided baskets of sandwiches, smoked hams, and other delicacies. There was unlimited lemonade, and everybody forgot all the petty irritations which do accumulate in the day's work. A scrub ball team was organized, and Charlie Siegrist, the fat and popular German foreman, made a home-run which brought tremendous applause, although Charlie nearly died of the effort. For months afterward, workmen, clerks, and executives had a common ground for grinning reminiscence, chaffing Clark the stockkeeper, over the bottle he was popularly supposed to have had with him, or Charlie about his famous run.

Self-starting social activities are the best and most effective ones in the plant, and the wise attitude of the personnel department is simply to drop the casual suggestion, letting it bear fruit if and when it will, and providing a focus for organizing the activity if it seems to be wanted.

FINANCIAL AIDS

Self-respecting employees do not like charity, and they resent officious interference in their affairs, but much can be done to make their positions worth more to them, in an impersonal and cooperative way. Among many that might

be listed, we may name, as examples of such activities, the offering of savings bank or building and loan association facilities to employees, investment counsel, life insurance, (already referred to), a loan fund, a mutual benefit association, providing sickness insurance, a pension system for old employees, cooperative purchasing of coal, clothing, staple foods, and so forth, and legal advice and assistance.

COLLECTIVE NEGOTIATION

In the average business, wages are adjusted by trial and error, the rate being raised if necessary to secure enough help, held stationary or lowered if the market permits. These changes usually do not directly affect the present force, unless very drastic. The new people who must be hired come in at higher or lower rates, the shift being gradually spread among the older employees by promotion. A direct reduction of wages is usually avoided as far as possible.

There is, in the average business, no organized channel between management and men for the expression of grievances, or the adjustment of wages. If there is a good supervisory force, the men have a chance to bring up such matters for friendly discussion and have them settled one way or another, or the management itself is aware of the condition, and corrects it before complaint is made.

In very large organizations there is a long way for a grievance to travel from workmen to deciding executive, and there is a good deal of danger that some apparently trifling matter will go unknown and unremedied. It is often such apparent trifles that excite the combative spirit and the mob contagion and lead to trouble. To provide an organized method of by-passing the truculent foreman or overzealous department head, without weakening the support of those in authority, many large companies make use of some form of works council. In its essential features, this is a body, half of whose members are elected by the

workmen and half appointed by the management, which meets to consider any matter presented to it, of common interest to management and men. Suggestions for improved methods, grievances and appeals from decisions, requests for adjustment of wages, may come from either management or men, and are brought before the council for action according to a carefully worked out plan of procedure. The works council plan has been extensively adopted and appears over a history of some 10 or 15 years to have pretty definitely proved its value for the large company. It should not be necessary in the smaller business, although it may be serviceable even there.

UNION NEGOTIATIONS

Where an employer works with labor unions, particularly where there is a closed or all-union shop, the making of the wage bargain is usually done with union representatives, by a somewhat different type of collective agreement. It is very common for the bargain to be made for the whole trade, representatives chosen by the employers' trade association meeting with the union representatives. Quite elaborate agreements are often made covering every detail in the way of enforcement of the agreement, with provision of a trade board, jointly representative of employer and of local employees of the union, to interpret and apply the agreement in specific cases. A plan for appeal to a central trade board and finally to arbitration is also often a feature of the plans.

CONTROL AND STATISTICS

Personnel work, like production, office work, banking, and selling, is subject to the principles of analysis and measurement discussed in the chapter on "Cost Accounting." The principal measure of results in personnel management is labor turnover, referred to in Chapter XIV, which may be defined by the formula $T=S\div A$, where T

equals turnover for a period such as a year, S equals the total number of separations from the force, for the period, and A equals the average number of employees during the period. The turnover figure should be analyzed, as cost figures are analyzed, in detail and by departments. Its fluctuations make evident any increase in the losses due to changes in conditions, and point to the departments in which they are occurring. The next thing is to discover the reason for the turnover, which may be a rise in the general wage level which has not been responded to by the organization, or some condition such as cold workrooms or incompetent supervision in some department, or any one of many reasons which is causing dissatisfaction.

As the turnover figure furnishes an index of satisfaction, so the amount of absenteeism gives some indication of morale. It is affected, of course, by periods of general illness and similar causes, but is also increased by poor habits of attendance and by tardiness, which in turn indicate poor supervision or indifference.

Personal observation, the questioning of employees as to reasons for leaving, and similar means, will also keep the management informed. There is a danger of going too far at times in such work, of becoming a sort of industrial hypochondriac, constantly on the alert for symptoms, inviting grievances, tinkering with new welfare schemes and remedies. Men like better a healthy and vigorous robustness of management, which provides fair and sound working conditions and then does not bother too much about whether everybody is pleased, a management that knows its own mind and is friendly but not solicitous.

XXX

WAGE PAYMENT

Real wages. Systems of payment. The time basis of payment. Measurement of output. Classification of skill. Output. Time study. The factors in a wage payment. Share wage systems. Piece-rate system. The guaranteed piece-rate. Bonus systems. Quality bonuses. Group payment plans. Payment of supervisors and executives. Clerical help. Payment of salesmen. Profit-sharing. Records of employees. Promotion.

THE real wage which a man receives includes all the benefits he receives from his employment. Large companies with well-organized personnel work, and with features which appeal to the employees' tastes, such as a pleasant social life, insurance, and similar benefits, find that they can secure help of a given grade of skill at slightly lower rates than can smaller, less well known and well organized companies. In the same way, such inducements as the discounts on purchases made to employees in the store by large retail stores, or favorable hours, vacations, steady work, allowances of expense money, and so on, are all considered by the employee. But, as is natural, the dominant factor in his mind, in weighing the desirability of his job, is the wage rate. It not only provides him with the necessities of life, but it is to quite an extent the measure of his abilities in his own eyes and the eyes of his family and associates. The first requisite to satisfaction is that the wage shall be as much as the man feels he could get elsewhere, or in accordance with the going rate of pay for the work. As has been noted, the management regulates its rates by the process of inquiry from neighboring firms as to what they are paying or by the process of trial and error, using the turnover of labor and other symptoms as indicators. Wage rates are fixed by supply and demand, as is

the price of any commodity. The usual element of lag is found. Employers dislike to risk the loss of good-will and the disruption of force that follow too early reductions in rates, and the employee similarly hesitates to throw over a secure job for more money. Lag in adjustment also comes from the fact that, as in building, the man who has learned a trade has made a long-time investment, which he must sacrifice and take lower wages if he changes occupations. Home-owning, dislike of moving, and similar factors tend also to stabilize a force and render it less sensitive to slight shifts in wage levels.

SYSTEMS OF PAYMENT

Separate from this question of how much shall be paid, is the question of how to pay it. Many types of wage system have been devised, with the idea of tying up the man's interest in earning a certain rate per hour, with the company's interest in securing a given cost of production.

THE TIME BASIS OF PAYMENT

The simplest of all systems of wage payment is the hourly time basis. Here the agreement is that the man will be given a certain wage for doing designated work, and within broad limits this work may be changed as circumstances require, and the wage may be made to cover compensation for a variety of qualities, such as speed of work, quality of work, discipline, punctuality and attendance, performance of extra duties, length of service, ability to do other kinds of work, to supervise other men, interest in and loyalty to the company's welfare. All these factors and any others may be considered in fixing the original rate and in making promotions or giving increases.

The day wage also obviates the necessity (although not the desirability) of an exact measurement of output, and permits increases to be made on the basis of the superior's

judgment. In this way it is the simplest and most flexible of all wage plans. For many types of work it is almost the only practical plan. Many jobs are on a natural time basis, such as the work of a watchman or gate attendant. Others are so complex, or conditions are so uncertain, that there is no fair basis for measurement. The work of the higher executives or specialists is difficult, although not always impossible, to reduce to measurable terms.

The time basis of payment suffers from serious disadvantages, however. The most serious of these is the remoteness and uncertainty of the connection between performance and reward. The supervisor may not notice good work, may be susceptible to flattery or "pull," and the natural disposition is not to hurt oneself working where credit is not given for good work. It is a rule of discipline that punishment, mild but immediate and certain, is more effective than violent punishment, only occasionally applied. The same holds true of reward, and a system such as piecework, in which the man translates every piece into so much earned, produces a great increase in output even from conscientious men. As a matter of fact, with many jobs in which promotion is improbable, it is, with day work, to the man's interest to do as little as he can and still be sure of holding his job.

Time payment is simple to record, easily understood by the man, but it makes it impossible to know with accuracy what costs will be. Generally speaking, the man has no incentive to scamp quality under this system, although it is a fact that better work is often done by skilled men working at high speed and with accurate rhythm and movements, than by men working leisurely. But supervision is constantly necessary with a time plan, to prevent loafing or distraction.

MEASUREMENT OF OUTPUT

Before any more accurately measured basis of payment than the time basis can be used, it is necessary to know

quite definitely what is being paid for. This is not as easy as it first appears. All wage plans, except those in which the employee is paid a percentage of the proceeds or profits of the operation, are based on an hourly rate assumed to be the current rate of pay for the employee's particular grade of skill. Thus if a piece-rate is being set, for work done by men rated at 75 cents per hour, the rate will be computed on the basis of the time taken. If this is four minutes, the rate per piece will be 5 cents. The piece-rate is sometimes made somewhat higher, perhaps 20% being added as an extra incentive. This rate would then be 6 cents, and, working at the normal pace, the men would earn 90 cents an hour.

CLASSIFICATION OF SKILL

The first thing to be done in making a consistent wage adjustment in a business is to classify the occupations on a skill basis. Skill is, of course, not the only factor to be considered. Custom, or scarcity of workers in a particular trade, all influence the wage rate. A classification must, of course, give consideration to such elements. In spite of the fact that a theoretically accurate classification is impracticable, the process of classifying as closely as is practicable is a great aid in pointing out discrepancies in the wage scale, and in handling wage questions in an orderly fashion. Thus in the classification of the Civil Service of Canada, it was found that many anomalies in payment existed. There were no accurate upper limits to the salary of any position, and men were found who, simply by virtue of having been a long time in easy clerical positions, were getting higher salaries than their department heads. Others were found, with elaborate titles, and substantial salaries, whose duties on analysis proved to be of a simple clerical nature. Classification brings such discrepancies to light. A classification of shop workers might include the following grades, as used by the Westinghouse Company in 1917. To translate these grades into rates of pay, percentage figures are

added as shown, giving the approximate pay in comparison to the base rate for Grade E.

A. Leaders in charge of groups. Experimental workers and those on production and tool work of the highest grade. General knowledge of machine tools, speeds, and materials required, also a high degree of judgment, accuracy, skill, and dependability. Foremen, toolmakers, pattern-makers, skilled artisans, high-grade compositors, monotype operators, and so forth. Wage 250% to 300% of base rate.

B. Workers with sufficient skill to undertake the usual run of machine jobs, requiring independent reading of instructions and setting of tools, but jobs usually repeated and not requiring the accuracy or skill of the A grade machinists, other similar skill grades, as painters, carpenters, masons, plumbers, and electricians, machine setters, foundry molders, and so forth. Wage 180% of base rate.

C. Workmen proficient on routine work. Punch press operators, printing press operators, assemblers, and so forth. Wage 150% of base rate.

D. Workmen who can be brought, in a short time, to proficiency in the simpler repetitive operations. Wrappers and packers, helpers, press-feeders, and so forth. Wage 120% of base rate.

E. Unskilled labor, available only for the rougher operations requiring no training. Move men, stockmen, sweepers, the labor gang, and so forth. Wage 100%, or base rate.

A worker in grades A and B may again be classified according to degree of mastery of his trade, as apprentice or learner, journeyman, and master.

This classification applies primarily to indoor shop workers. For workers in the outdoor and intermittent trades, other factors must be considered.

A classification of clerical duties made by the Society of Industrial Engineers included the following supervisory grades: major supervisory, as chief of a division or a highly technical worker; senior supervisory, as the head of a divi-

sion of the accounting department; and junior supervisory, as the senior clerk in a small group, the chief filing clerk, and so forth. In the clerical grades, the classification included the grades specialist, major clerical, senior clerical, junior clerical, apprentice, and non-clerical office help.

OUTPUT

The second quantity to be measured in wage-setting is the quantity of output which constitutes a fair day's work. How may the capacity of an individual be fairly measured? It may be all the way from zero up to the highest racing speed which the individual is capable of attaining. Which point on this scale is the correct and fair standard of output? What is aimed at is the maximum which can be done by the average individual, day in and day out, without injurious fatigue or overstrain, and with due allowance for necessary interruptions and irregularities.

TIME STUDY

The standard time is preferably ascertained by time studies, with a sufficient number of studies and individuals studied, to assure reliability of the result. A description was given in Chapter XXI of the method of analysis of motion study. In time study the same general method is used. The operation is analyzed into small elements. Each element is timed with a stop-watch, and the cycle is repeated until a sufficient number of readings are obtained. Similar elementary times are then compared, and the lowest unit time (omitting "freak" times and errors) is taken. The sum of these minimum elementary times gives the minimum total time. A percentage based on experience, and running usually between 5% and 30%, is added to this minimum to cover necessary delays and the fact that the operator cannot in every motion reach the best time.

The accurate timing of an operation involves many com-

plexities. A new operator, or one accustomed to a leisurely pace, may not acquire the maximum speed for several months. There is usually a natural tendency for the operator to hold back and slow the time up a little when being observed. It is difficult to be sure that a truly typical cycle has been secured, that all allowances, such as the allowance for interruptions to repair the machine or to wait for materials, have been correctly made.

In spite of all these uncertainties, management in time comes to know quite accurately the attainable output of any work. As more studies are made, those of a similar character are correlated, like elements are compared, and discrepancies are eliminated.

Probably the greatest danger is that in starting a series of studies, because of lack of experience under a scientific wage-setting system, times will be made too easy, so that unnecessarily high wages are earned for the class of work, and there is a temptation to cut rates. Restriction of output automatically follows a cut in rates unless in an exceptional case which the men feel is justified. The men find out how much the management will stand for on a particular job—say \$5 per day—and see to it that production does not rise above that limit. To avoid this difficulty the management sometimes guarantees that it will not cut rates for a period, say, of a year, or arranges that any cut in rate shall be approved by a joint rate committee representing both management and men.

THE FACTORS IN A WAGE PAYMENT

Theoretically the correct way to determine a wage bears some similarity to the method described in Chapter XIX for computing a fire insurance premium. A base rate is taken, representing what must be paid for the minimum labor value, say simple attendance, and easy work of an unskilled laborer. Percentages are then added to cover the various elements of skill or undesirability of the job. Thus

in the classification of shop labor a Grade A man might have a base rate two and a half to three times that of a Grade E man. In figuring the hourly wage of the individual, within high and low limits for a grade, percentages or differentials could be added for skill, length of service, general attitude toward the company, heavy or disagreeable nature of the work, and any other desired factors. In the same way differentials or allowances can be added to the piece-rate or bonus, if desired, for quality, saving of material, economy of maintenance of the machine, avoidance of mistakes in clerical work, missionary work in selling, and so on. In practice, the weights given to these qualities are usually determined by judgment of the work as a whole, rather than by any very fine-drawn point scale. Analysis of this sort is, however, an aid to correct judgment.

SHARE WAGE SYSTEMS

In addition to the time basis of payment, already described, there is a system, not very widely used, in which the employee shares with the employer some of the risks of the business. Tenant farming, threshing, and so forth, on share, are of this type, although the relationship is not precisely the usual one of employer and employee. It was once a custom to make the wages of seamen contingent on the profits of the voyage. In whaling, for example, a certain share goes to the owner of the vessel, certain shares to the master and officers, the remainder is divided among the seamen. In certain branches of mining, pay is sometimes made proportional to the price of the metal. Such a system was fairly well adapted when but little capital was employed and there was no sharp line between master and men. It is not as well adapted to modern conditions, in which the management pays more than is needed in profitable times and loses men to steadier industries in dull times. The more modern profit-sharing plans have the same element in modified form and will be described later.

Aside from these special types of payment, modern wage systems are in general either of the time-payment type or based on output, or on a combination of time and output, with differentials applied in some cases for quality, and other factors. The tendency is toward the use of systems based on output.

PIECE-RATE SYSTEM

The piece-rate system is the simplest of the plans based on payment for output. The method of setting the rate, based on the hourly basic rate, has already been described. Costs may be accurately predicted under piece-rates. Disciplinary supervision is reduced to a minimum, since the men are as much interested as the management, in output. Quality must be inspected. Timekeeping is more complicated than with day-rates, since a record must be kept of the output of each man, and there is a chance for one man to steal another's work. Coupons are often attached to the work ticket, signed or stamped by the foreman when completed, and presented by the man for payment, but even here difficulty occasionally comes from lost tickets. The pay-roll, however, is very simple to make up. The piece-rate system is traditional, simple, and easily understood by the men—a distinct advantage. Where rates are not accurately set, the piece-rate system is subject to the serious evil mentioned, of rate-cutting, as, indeed, is any system based on output. For standardized work in which the rate may be accurately set, piece-rate is probably the best system. Where conditions are not standardized and the workman is liable to interruptions and irregularities for which he is not responsible, the piece-rate tends to penalize the workman unfairly for what is really the fault of the management. Day-rate is usually paid for time thus lost, but this is not very satisfactory, as it is usually less than what the man would otherwise earn, and there is a tendency for a man when temporarily put on day-rate to take the work very easily.

THE GUARANTEED PIECE-RATE

Under this plan, often called the Manchester piece-rate, the worker is guaranteed day wages regardless of output. Most of the bonus plans incorporate a guaranty of this sort. The plan is often used with learners, who would get discouraged and quit if started on straight piece-rate. The system is also useful where work is subject to such irregularities as those mentioned above.

Other modifications of the piece-rate plan are met. The Taylor and Merrick differential or multiple piece-rate plans, not widely used, set two or three piece-rates. In the Taylor plan one piece-rate is paid for work done in an allowed standard time or better, a lower rate being paid if a longer time is taken. The Merrick plan has three steps, a low, an intermediate, and a high rate, at less than 83%, 83% to 100%, and 100% or better efficiency compared with the standard time. The justification of these steps is the saving of overhead by faster workers, but these systems are rather harsh from the workers' standpoint, since he can see no reason why if he makes just under standard he should have to take the double penalty of pay for less prices and at a lower rate.

A form intermediate between the day- and piece-rate systems but primarily of the latter type is the multiple time-rate system used in the cutting trades in the tailoring industry. Under this plan a man is graded according to his production, and receives a weekly wage according to his grade. Thus if he did between 95% and 105% of the standard production of the "standard coat" (from which all other coat prices are figured by adding differentials) he might receive \$50 per week. If in the class from 85% to 95%, the pay might be \$47.50, and so on. Each month the ratings are revised, the man's rate being increased or decreased according to his record the previous month. George D. Babcock¹ suggests the possibility of including

¹*Management and Administration*, August, 1924.

other factors besides output in this system of computing the wage.

BONUS SYSTEMS

The distinguishing characteristic of the bonus plans is that a standard time is the unit of payment rather than a fixed piece-price. If the standard time is one hour, a man on a 60-cent rate would get 60 cents for the job, one on a 50-cent rate, 50 cents. This provision is of advantage in case the wage scale changes, since the standard times need not be adjusted, only the hourly rates of the men being changed. The bonus is computed as some fraction of the time saved over standard time. In the Halsey plan it may be one-half, or some other fraction of the time saved. It might be the whole time saved, in which case the effect would be that of a piece-rate or 100% bonus, except for differences in hourly rate. In the Emerson and Gantt bonus plans the man is paid 120% of the standard time, at 100% efficiency or better.

In the Halsey plan, standard time is set for a job, and the workman is guaranteed his day-rate whether he reaches standard output or not. If he does the task in less than standard time, he is given some fraction, usually half, of the time saved. If a man whose hourly rate was 60 cents, did in half an hour a job whose standard time was an hour, the man would receive pay as follows:

One-half hour at \$0.60.....	\$0.30
Half of time saved, or $\frac{1}{4}$ hour at \$0.60.	0.15
Pay for job.....	\$0.45

The Halsey plan is well adapted to cases where the work varies a great deal and rates cannot be set very accurately. It is also a good plan to use when changing from day- to piece-rate, since the rates automatically reduce themselves as the speed increases. The formula for the Halsey plan, using a 50% basis, is:

$$\text{Earnings} = (\text{Time worked} + \frac{1}{2} \text{ time saved}) \times (\text{rate per hour})$$

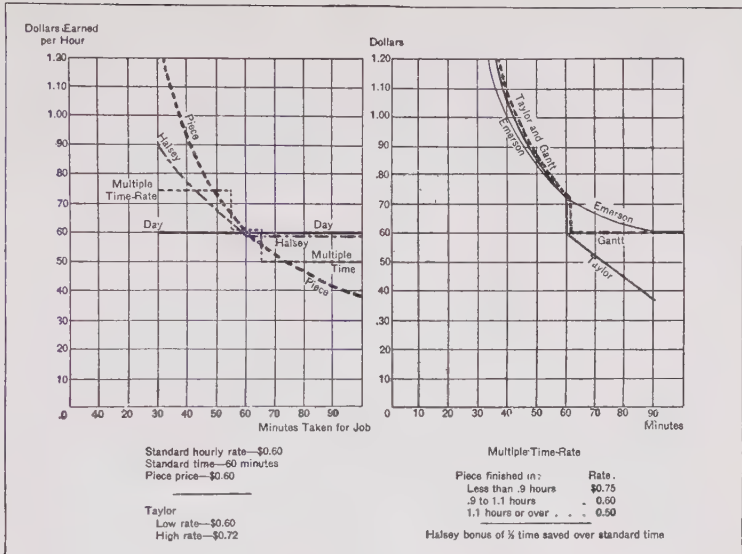


Figure 39: Earnings per hour at various times taken to do one piece.

The Gantt and Emerson plans are outgrowths of the Taylor differential piece-rate plans. In the Gantt plan, the day-rate is guaranteed, and a standard time is set. If this time is bettered, the man is paid for the standard time allowed for the job, at his hourly rate, plus a bonus of 25%, and this amount is paid even when the job is done in less than standard time. For a man at 60 cents per hour who did in half an hour a job rated at one hour, the wage would be for the half-hour's work:

Pay for 1 hour.....	\$0.60
Plus 20% bonus.....	<u>0.12</u>
Pay for job.....	\$0.72

The formula for the Gantt wage above standard performance is:

$$\text{Earnings} = (1.20 \times \text{standard time}) \times (\text{rate per hour})$$

In the Emerson plan, the man is paid for the time taken,

if better than standard time, plus a bonus of 20% on time taken, plus pay at the hourly rate for the time saved. For performance not quite up to standard a small bonus is given commencing at 67% of the standard efficiency and gradually increasing to a 20% bonus on the time taken at 100% efficiency. The formula for the Emerson wage, at 100% or better efficiency, is:

$$\text{Earnings} = (1.20 \times \text{time taken} + \text{time saved}) \times (\text{rate per hour})$$

Various other plans have been used, in principle on the general order of the plans described, or some combination of them. Generally speaking, the bonus plans furnish a stimulus to the worker to increase production. The plans are all more complicated than the piece-rate plan, both in figuring costs, in making up the pay-roll, and in ease of understanding by the men. They do not set a simple and clear-cut goal for production as does the piece-rate plan,

TABLE 9

EMERSON BONUS SCALE FOR EFFICIENCIES LESS THAN 100%

Efficiency Percentage		Bonus Percentage
67.00 to	71.09.....	0.25
71.10	73.09.....	0.5
73.10	75.69.....	1
75.70	78.29.....	2
78.30	80.39.....	3
80.40	82.29.....	4
82.30	83.89.....	5
83.90	85.39.....	6
85.40	86.79.....	7
86.80	88.09.....	8
88.10	89.39.....	9
89.40	90.49.....	10
90.50	91.49.....	11
91.50	92.49.....	12
92.50	93.49.....	13
93.50	94.49.....	14
94.50	95.49.....	15
95.50	96.49.....	16
96.50	97.49.....	17
97.50	98.49.....	18
98.50	99.49.....	19
99.50	100.00.....	20

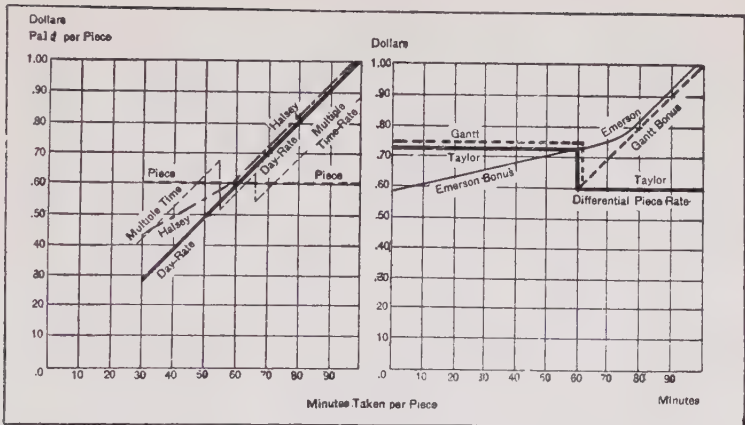


Figure 40: Price paid per piece at various times taken to do one piece.
 (See Figure 39)

excepting perhaps the Gantt plan, which becomes practically a guaranteed piece-rate plan.

QUALITY BONUSES

Care in use of materials and quality of workmanship may be paid for in two ways. One way is to pay an extra bonus for a certain percentage of saved materials or low percentage of defective work. The other is to pay at different piece-price scales, a higher scale for more efficient quality and savings production. Thus in punching out small mica protector sheets used in electrical apparatus, there was, in one plant, as high as 70% waste. A quality piece-rate system was installed, paying the following scale:

Ratio of Good Parts to Scrap, %	Piece-Work Price, Cents per 100 Pieces
60	.31
70	.325
80	.34
90	.356
100	.372
110	.387

GROUP PAYMENT PLANS

In many operations, such as assembly, several people work together on one product. In this case, any of the payment plans, such as straight piece-work, the Halsey or Gantt plan, may be applied to the collective output. Thus in assembling the Ford automobile, each assembly unit gang is paid a bonus on all above a fixed standard output. The bonuses or earnings are divided proportionately among the men, according to wage rates or on any other equitable basis. Very distinct advantages are claimed for the group bonus plan by those who have used it. A. D. Byler, vice-president and general manager of the Edison Electric Appliance Company, which uses the plan extensively, says that in addition to the usual advantages of an output basis of payment, the group bonus plan fosters and encourages a group solidarity. No one in a group is likely to loaf, when he is made to realize that the earnings of all depend in part on his efforts. A gang will often ask to be relieved of an incompetent worker, and, in fact, will often ask the privilege of doing a task with less people, having found improved methods. Rate-cutting would, of course, destroy the efficacy of the plan and rates must be carefully set. Foremen receive a fixed percentage of the earnings of their departments, as bonus.

PAYMENT OF SUPERVISORS AND EXECUTIVES

In practically all cases, on account of the complexity of their duties, supervisory officials are paid a monthly salary. This may often, however, be supplemented by a bonus designed to afford a stimulus to efficiency. In the Gantt bonus plan, the foreman receives a certain percentage of the bonus earned by his men, with an additional percentage when every man is earning bonus. The supervisor's bonus may also be based on sales, or volume of production, on reductions in cost, or on net profits shown by a department. Spe-

cial provision must be made in the accounting system to record these facts, but the plan does afford an excellent incentive to effective work. Thus Charles M. Schwab,¹ who used this system extensively in the Bethlehem Steel Works, says that the president, Mr. Grace, received a comparatively small salary, but earned in one year a bonus of over a million dollars based on the savings shown over his predecessor's costs of operation.

CLERICAL HELP

In some types of clerical help, such as typewriting or running mimeograph machines, and so forth, it is possible to use either straight or guaranteed piece-rate, or a bonus. Thus typewriting may be paid for on the basis of number of letters, square inches, or lines written. In many cases clerical work is so varied and the difficulty of adequate inspection and the seriousness of errors are such that no attempt is made to pay on a definite output basis. Quite often in clerical work, however, some special form of bonus is used on a point basis, points being given for attendance, punctuality, freedom of work from errors, output, and other qualities as desired

PAYMENT OF SALESMEN

There are two prevailing plans of paying salesmen, corresponding to the time and output basis in factory work, namely, on salary and on commission. Payment on salary has several advantages. The salesman is sure of a regular income, even in bad months, and his interests are those of the house. The management may properly ask him to perform many miscellaneous duties to advantage, which would not be asked of a commission salesman, such as missionary work, getting sales started in new territories, collections, and so on. On the other hand, the commission plan makes

¹*My 20,000 Partners*, Charles M. Schwab.

the cost of sales certain, and provides a strong, continuous incentive which keeps the man on his toes. With commission payment, less control is had over the salesmen and there is a tendency to "skim the cream," selling easy lines, easy dealers, and easy towns rather than working to build up a territory.

A combination of the two plans possesses many advantages. The salesman may be given a drawing account. This is really only a variation of the commission plan. Commissions over a certain monthly amount are retained by the firm to build up a fund against which the salesman is permitted to draw a regular monthly amount, or this drawing is sometimes (less advisably) against future commissions. At semiannual or annual intervals, balances are settled.

Another combined plan possessing advantages in many cases is to pay a guaranteed minimum salary, with a smaller commission on sales above a certain amount.

Another plan is known as the "point" system. While more complicated, it can be very accurately adjusted to place the emphasis on the desired activity of the salesmen. With this plan an arbitrary value or point is used, each point being paid for at a certain rate. On goods easy to sell, and sold in quantity, perhaps one 10-dollar point might be paid for each two or four hundred dollars of sales. Goods harder to sell, novelties the firm is anxious to introduce, high-profit lines, receive proportionately more points. Points are also given for sales demonstrations for dealers, for missionary selling in new territories, and for any other desired service.

PROFIT-SHARING

Many plans have been proposed for sharing profits with employees. In so far as "profits" are defined as those elements directly affected by the efforts of the employee, profit-sharing plans are really only variations of the Halsey premium plan of payment, which divides time or cost saved, between management and man. Schwab's plan of paying a

percentage of savings is of this type, and this type is effective in stimulating production.

In the generally accepted sense, profit-sharing is a sharing of the firm's profits, made in addition to the usual wage, voluntarily and without primary connection with output of the individual. Thus a company might set aside half of its net profits above 6%, and distribute this sum annually to employees.

The consensus of opinion seems to be that, as a method of stimulating production, profit-sharing is not as effective as other plans. Probably many profit-sharing plans are not started with this end primarily in view, but from an altruistic desire to make workmen partners in the industry. The modern plans for selling stock to employees under favorable terms seem better adapted to this purpose.

RECORD OF EMPLOYEES

In a large organization, in order to be able to deal intelligently with employees in promotion or discipline, some central record is advisable, which contains a summary of the employee's whole history. This record is usually kept, along with the application for employment and other papers, in the files of the employment department. A record is kept of his attendance, earnings, promotions, and other information, usually with some comment at intervals by his superiors as to his qualities.

Many firms use the plan of periodically having each employee rated by his superiors, on such qualities as knowledge of his work, intelligence, capacity for improvement, character, and general value to the company.

In a large company records would be kept in a card index and markers or flags attached to the top of the card, used to indicate educational qualifications, readiness or desire for promotion. It is an easy matter to run through the files and pick out all the possibilities, later to be examined in more detail.

PROMOTION

Promotion is one of the great incentives used by management, and it is important to use it effectively. The least effective and most demoralizing type of promotion is that which is haphazard or based on favoritism. A man may realize that he has only one chance in a thousand of becoming general manager. But if he feels that he is unjustly shut out of the one chance, his loyalty is turned to indifference. If he exerts himself at all, it is apt to be to play politics for promotion.

Systematic promotion may be either on the basis of seniority or of merit. Seniority as a basis for promotion is often used in large organizations, such as the government services, in large railroads, and other similar organizations, applying principally to the rank and file. While it does not afford the stimulus of merit promotion, it does have the advantages of fairness and order; the man knows if he works long enough he is reasonably certain of promotion.

Merit promotion, if it is to avoid the danger of degenerating into approximately favoritism, must be based on some system of appraisal and record of accomplishment, and it is then the preferable plan.

The ideal promotional plan depends on the personal judgment of an informed and impartial superior, properly to balance the qualities of seniority, past performance and capacity for growth, in promoting, and usually the test of a good promotion is found in the way the other members of the organization take it.

In the large organization, with various men of the same rank promoting in different departments, it is rather easy for the standards to differ, promotion being much more easily secured in some departments, with resulting dissatisfaction in other departments. It is here that it becomes necessary to use some uniform system such as seniority, or a point merit system with uniform definition of the points and of their weight.

XXXI

EXECUTIVE CONTROL AND LEADERSHIP

A right course of action carried out. Judgment. Experience. The organization of experience. Imagination. Getting action. Self-confidence. Organization habits. Types of management.

So much depends on the quality of the leadership of a business that it is appropriate in the concluding chapters to consider some of the qualities and methods of executive control and leadership. At the outset we must admit that such a statement cannot be final or all-inclusive, for success consists in the adaptation of personality and personal efforts to a situation, and both the person and the situation contain in themselves the elements of an infinite variety.

But while there is no formula for an executive, there are certain methods and qualifications which conduce to effectiveness in the director of a business. The qualities may logically be divided under two heads, qualities and methods which enable the executive to choose a right course of action, and those which enable him to carry this course of action into effect. Important in the first group of qualities are judgment and imagination. In the second group come such qualities as good working habits, organization training, courage, confidence, and the habit of action, and the ability to secure the confidence and cooperation of other men.

JUDGMENT

The ability to make a right judgment depends on two qualities, related but not identical. Judgment is impossible without knowledge, information, and experience, which enable one to identify a situation with former experiences or other knowledge. The second element in good judgment

is an orderly and open-minded habit of mind which enables one to give the proper weight to all factors.

Where all the factors in a result are known, including the law of relationship of cause to effect, we hardly speak of a decision as a judgment. It is rather the Q. E. D., the natural conclusion which follows demonstration and proof. Modern methods of scientific analysis and application of cost-finding and similar tools of management, have taken many matters out of the field of judgment and put them in the realm of certainties. But many situations still arise, even in the most exactly controlled business, in which all elements cannot be known, are too complex indeed even to permit complete analysis, let alone measurement. The process by which the individual reaches approximately correct results, calling into play the total of experiences and impressions, some of them hardly above the threshold of consciousness, is called judgment.

EXPERIENCE

Experience ripens judgment because it enriches the store of analogous and related precedents in a man's mind. Experience includes the whole receipt of impressions from the outside world, reading, learning, hearsay, first-hand participation. In the engineer this experience requirement is largely of a technical nature. He must know the properties of materials, the available mechanisms and structural types, the action of the forces of nature. Just as specialized is the experience of the advertising man, of the credit manager, the accountant, the production engineer.

The executive's experience must be broader than that of any of these department heads in his business, for he must be able to decide as to the soundness of their recommendation. It is a distinct advantage to have had first-hand experience with the work of the more important departments, so that if a department head makes an error or an emergency occurs, the chief executive is able to take command of the situation.

FIVE RULES OF BUSINESS

By AUGUST HECKSCHER

New Jersey Zinc Company

1. Be thoroughly acquainted with general business methods.
2. If a competitor is selling or producing cheaper than you are, find out why and then shape your policy on the facts.
3. If you cannot pay debts when they are due, fully explain why and preserve your credit.
4. Do not nurse a loss. The big losses come from trying to avoid the inevitable.
5. When you are managing a business, know its every detail and what every one else in your field is doing.

System, February, 1923, p. 160.

Such a complete range of experience is, of course, often not possible, and the executive then makes use of a special type of administrative experience, his ability to judge the reliability and capacity of other men, so that while he may not himself know the answer, he knows that the subordinate knows it. This ability to judge other men is in part a judgment of their general ability, of their confidence, and reaction to a problem. In part it is gained by shrewd comparison of opinions, checking one man's views against another's, to discover loopholes in either. In part it comes from the maturing of a philosophy, a broad knowledge of the laws of nature and of human action, which makes a

man quick to pick out vital points in a narrative, to judge as to the probable truth even where there is a lack of specific knowledge. It is sometimes said of an executive that in half an hour's talk with a subordinate specialist he seems to have learned more than the subordinate knew. The reason for such an apparent contradiction is found in the years of experience and thinking, the broad knowledge, and the powers of discrimination and correlation which fit the casual facts into a system of shrewd, sound inferences.

A man of affairs usually has his fingers on many men whom he can use if he needs them. He knows the proper specialists to turn to as a librarian knows the right books. When he needs men for a responsibility or new task, within the circle of his own organization or among acquaintances outside, he knows where to lay his hands on the right man. He may keep track of men who are doing things in this field, all over the country.

THE ORGANIZATION OF EXPERIENCE

One often wonders why of two men, exposed to the same set of circumstances, one matures in judgment and perception while the other stands still. The contrast is a favorite theme of advertisements of books and correspondence courses, and indeed the impact of new ideas and concepts may account for the difference. Often the difference is in the men themselves, the one being unable to free his thoughts from the color of emotion and prejudice or to see facts in any but a habitual light.

IMAGINATION

Imagination, when coupled with judgment and the ability to perform, is one of the gifts which distinguish business leaders. Back of James J. Hill's memorable life lay the imperial sweep of his dreams of the great Northwest country. Something of the same clarity of vision which marks

the work of a great artist, distinguishes that of the great leader of business. He sees what other men overlook and pass by.

In its great manifestations this quality is probably native, or results from the contact of a natively vigorous mind with some fortunate stimulus of accidental discovery or opportunity. But to a man who is confronted with a problem whose solution he has not discovered, there are ways of going about it which increase the possibilities of getting a right answer.

One method of discovery is that of systematically combining all the factors in the problem in different combinations until an answer is hit upon. This is the method one would use in solving a cross-word puzzle, if given to that form of amusement. In the "four-letter word beginning with a," ab, ac, ad, and so on, would be run over to see if a clue could not be found. This is the method which would be used in developing an advertising slogan. All the ideas, good, bad, and indifferent, would be set down and all sorts of combinations tried, until one was found which expressed the desired idea in an epigrammatic or catchy phrase.

A variation of this idea is to draw on outside sources for similar more or less chance inspirations. The name "Liberty" for a weekly magazine was selected after a contest, with large prizes, in which a great number of names were submitted. The same idea is used by organizing suggestion prize systems to encourage employees to turn in their ideas and inspirations.

Chance combination is an expensive method because so few of the combinations are of value. One increases effectiveness by making, first, the most promising combinations. And one may be guided toward the making of fruitful combinations by some of the systematic methods invented by men of science for the exploration of unknown fields.

One of these methods is the application to invention of the method of drawing analogies. The law of inertia is a familiar principle in physics. Many significant facts ap-

pear when one assumes that a corresponding law may operate in other fields, that there is an inertia of the mind, for example, to be considered in making changes in a clerical system.

Exceptions and unexplained cases are also often significant, for the exception indicates that the principle is not perfectly formulated, that unknown factors enter, which may perhaps be discovered. This is one reason, using a rather humble example, why the executive should be interested in complaints from customers. They indicate overlooked details, weak spots.

Imagination is stimulated by broad contact with affairs and culture. A man is better able, often, to see the forest if he is not among the trees. The engineer or the doctor, entering industry, is likely to make a significant contribution because he is able to apply the methods with which he is familiar, in cases to which they may never before have been applied. Taylor's work illustrates this.

Often a single discovery leads to a whole series of applications. Thus a patented clasp, applied first to tobacco pouches, is now being used on women's overshoes and on overalls. The idea of scientific management was carried over from the field of its original application, to various other fields, such as selling, office management, domestic and government administration, and so forth.

In a practical way, the business man should be prepared to make correct decisions by a sufficient background of experience and of general principles. He should keep his mind open to new developments and from time to time step away from the routine details of his business and ask himself—are there weak spots—are we overlooking opportunities—is there a better way?

GETTING ACTION

No doubt you are acquainted with men who are walking encyclopedias as far as knowledge goes, but who seem

somehow to fail in applying their knowledge to secure effective action. What are the flaws in their method? What are the requisites to the putting of decisions into effect?

One simple reason for failure lies in not understanding the difference between knowledge and skill. In teaching swimming, dancing, or the work of a skilled trade, verbal explanation is worth little after the simple principles are explained. What is needed is practice, with correction of faults, until skill resides in the muscles, the lower subconscious nervous centers, as well as in the mind. The same thing applies to handling men; there are a thousand little nuances and shades of expression to be mastered, in which experience is the only teacher. A new task is so infinitely harder than an accustomed one, because, although one's mind may contain a map of the road to be pursued, at every turn the guide book must be consulted, it must be consciously decided what is to be done next. The man who starts with knowledge but has not the patience to acquire skill, never reaches the point of proficiency.

SELF-CONFIDENCE

One hesitates to explore the psychological aspects of executive control for fear he may fall into the danger of uttering obvious platitudes, things we all admit and would like to do if we could. But the risk must be run, for self-confidence is an essential element in action. Fear is the inhibitor of action and the paralyzer of initiative. Many a golfer who can play several holes in par when alone, goes to pieces before a crowd. He is under the strain of a fear of failure, which he did not greatly mind when alone. So in business, to use the old saying, "Nothing succeeds like success." The man with plenty of reserves, with cash on hand and no worries, with the assurance that comes from previous accomplishment, works under less strain and with better chances than does he whose energies are dissipated in worry over failure, or in mental conflict and indecision.

They say a sleep-walker will sometimes cross narrow beams or walk on dangerous roof ledges from which he would almost certainly fall in a conscious state, because if he realized the risk, he would be paralyzed with fright.

Granting the importance of assurance, how may it be built up? Individuals differ natively; some, of an introspective or introversive type of mind being subject to the handicap of frequent doubts, others being possessed to a sublime and sometimes even an amusing degree of confidence in their own wisdom and ability. Too naively displayed, of course, self-assurance becomes irritating to others. If out of all proportion to capacity, it may become, of course, a danger to the individual. Yet one suffers more often from a lack of it than from an excess.

It comes most naturally and soundly from a record of accomplishment. A man learns his limitations and how best to avoid or organize around them and how, on the other hand, to capitalize his strong points. In an organization he studies not only himself but other men and learns how to pair off an optimist with a cautious man, a man strong on selling with a good credit department.

One should avoid very carefully too disastrous shocks to self-assurance. Our instinct is to avoid blows to self-esteem as we would death, and no matter what the failure, we patch up some sort of excuse that enables us to hold our head up again. If men who work at lofty and dangerous altitudes, painting steel stacks, putting up the steelwork of buildings, and so forth, once make a misstep and actually have upon them the fear of falling, they seldom are able to go on with the work. Minor shocks to self-assurance are, of course, unavoidable in business, and the mind has the resiliency to throw them off. More serious blows leave scars which may go deep.

The first reaction to a failure is an excess of caution. A man puts off action, he postpones decisions until often it is too late to take or make them. If the man is further disappointed, he may reach the point where he gives up the at-

tempt to achieve realities, and feeds his mind on dreams. When even the dreams lose contact with reality, insanity is the next stage.

Thus the preservation of a normal, extroversive, assured point of view is a great aid in action. As long as one is confident, action flows free and smooth. There is need at times, however, for a kind of three-o'clock-in-the-morning courage, which acts in spite of doubts, in which the will forces the shrinking spirit forward in spite of itself. But it is an economy, within the limits of taste and reason, to build up self-assurance. It pays to give a salesman enough expense allowance to permit him to stop at good hotels, to dress well, if not loudly, to meet his customer eye to eye without inner apology for shiny coat and unshined shoes, or the background of a second-rate hotel and poor breakfast.

Some one has said, "When in doubt, act." When debate has ceased to produce further knowledge and reflects only the fear of making a decision, it is a good rule. Action steadies the nerves. Company commanders who must hold their men inactive before an enemy's fire, awaiting a deferred rush, know the value of singing or of any other occupation to keep the men's minds off themselves. Machine designers and inventors, writers, know it is a good rule not to think too long about it, but to get a pencil and paper and make marks, start the mind working, even if the first product must be thrown away.

ORGANIZATION HABITS

The capacity of the executive for action is increased by the formation of work-habits which may be compared with the skill-habits of the workman. For example, the habits of disposing of correspondence as it is received, of clearing the desk as far as possible daily, are details, yet liberate the attention for more important matters and free the mind from the worry of accumulated work.

Orderly methods of filing information and correspon-

RATING SCALE FOR EXECUTIVES

Is rating any executive compare him with others of his own group, or approximately his own rank.

Make a check on the line at the place which best expresses your judgment. Marks need not be immediately over the words.

Name of executive being rated Mr. "K" Position Supt. Dept. "T"

	Very high	High	Medium	Low	Very low
1. JUDGMENT (Does he reach right conclusions, detect fallacies, profit by experience?)					
2. INITIATIVE (Is he alert, original, a "self starter," has he constructive foresight?)					
3. ORGANIZING ABILITY (Can he plan, classify, delegate, supervise?)					
4. INTEGRITY (Is he truthful, honest, square, and sincere?)					
5. PERSISTENCE (Has he concentration, is he industrious and tenacious?)					
6. AGGRESSIVENESS (Has he energy, courage, and control of others?)					
7. COMPETITIVENESS (In playing the business game, does he play and win or lose as a good sport?)					
8. COOPERATIVENESS (Does he give and take; is he unselfish, kind, cheerful, tactful, loyal?)					
9. OPEN-MINDEDNESS (Does he consider all essential facts, and how ideas free from prejudice?)					
10. CONTROL OF EMOTIONS (Has he control of his temper, is he cheerful, petulant, or grouchy?)					
11. HEALTH (Are his senses acute; is he vigorous, and capable of enduring fatigue?)					
12. REFINEMENT (Has he courtesy, good manners, and taste; is he snobbish?)					
13. APPEARANCE (Is he well-groomed; has he good carriage, and pleasing facial expressions?)					
14. SENSE OF HUMOR (Can he relieve a tense situation by seeing the humor of it?)					

"a" "b"

*Graph "a" is Mr. "K's" rating of himself.
Graph "b" is the average of those rating by others.*

System, April, 1, 25, p. 460.

Figure 41: A rating scale which encourages executives to locate their strong and weak points.

dence, a regular routine in the order in which the day's work is done, also aid the executive. Since the executive's work is non-routine, a fixed program is not always possible, but it is possible with occasional exceptions to devote certain parts

Policies That Have Stood the Test of 132 Years' Use by One Concern

1. Keep up with the times. Never allow your fund of technical knowledge to grow stale.
2. Do not expect to take more out of the business than you put into it. This bars speculation of any kind.
3. Play out the game with the men you have on the board—which is another way of saying, "Meet every situation with the mental, physical, and financial resources which, at the moment, you possess."
4. Never do anything to injure the company's reputation for honest workmanship and honest dealing, both with customers and with workmen.
5. Meet prices, but never cut them just to get temporary business.

CHARLES LUKENS HUSTON
The Lukens Steel Company

System, April, 1925, p. 464.

of the day or week to certain tasks. Thus one president of a company formed the habit, not in itself perhaps generally advisable but apparently helpful in his case, of spending one or two evenings a week in going over general problems and doing his constructive thinking. The office was quiet and he was secure from interruption.

One must also learn to use the tools of organization. The system of reports and its possibilities for aiding the executive to grasp the facts of his business has been discussed. The manager must learn to delegate his work. At first it seems easier to do a thing oneself than to teach others to do it, and it takes a certain amount of time to acquire the habit of delegating work, which is usually characteristic of the successful executive.

TYPES OF MANAGEMENT

Business men differ greatly in the methods which they use to manage their businesses. Some, in smaller businesses, attempt personally to pass on every detail. Others concentrate their attention on the financial report, noting by its variations the results secured by subordinates, and holding the subordinate responsible for results or replacing him if he cannot secure them. There is, with this type of control, a danger that under the relentless pressure for dividends, without regard to how they are obtained, the subordinate operating officials will be driven to short-sighted methods that will eventually react to the injury of the business.

Another type of management is found where the business is headed by a strong personality, and this leader is always in the forefront of the advance, inspiring his men by his personal example. Schwab is a leader of this type, as is Vauclain of the Baldwin Locomotive Company. Management is apt to be rather unevenly applied in this type, the department in which the executive is experienced and interested, as selling, being highly developed while other departments receive less attention.

In addition to these types of management, detail, money, and leading management, there is a fourth type, distinguished by Murphy,¹ a balanced management in which the

¹*Library of Business Practice*, Vol. I, pp. 9-24, A. W. Shaw Company, Chicago.

executive emphasizes the careful selection of his department heads, and encourages them to develop their own methods, subject at all times to the occasional needed word of suggestion and guidance of the leader, and to his stimulus and plans for growth and development. The late Marshall Field was a notably successful example of this type of leader. At his death there was a large group of executives, trained in his policies and forward-looking point of view, ready to carry on the business without interruption and lift it to even higher levels of development.

XXXII

THE ART OF HANDLING MEN

Training in command. The springs of action. The instincts. Understanding men. The technique of leadership. Personality of the leader. Suggestion. The group as a unit. Management as a profession.

ONE of the requirements of the executive is that he shall be able to handle and to understand men. The process by which a man comes to be capable of leadership of other men is like any other training. Leadership implies, first of all, that a man knows what he wants to do and does it with assurance. Men do not respect a timid or vacillating leader. The suggestion of doubt and fear which his bearing inspires, permeates the whole organization with its paralysis, or in stronger men inspires contempt that is likely to issue in challenge. When a man takes over a new department, it is well either to allow sufficient time to familiarize himself with the situation before taking command, or to say frankly, "I am new here," and to take advice from subordinates and disturb the routine as little as possible until he is sure of his ground. It is best not to expose the act of decision to subordinates. Information and suggestions are asked, but the executive makes the decision without calling for help—if he has doubts, he keeps them to himself.

The habit of command is also learned by practice. A man is entrusted first with a small responsibility and a few men. If he learns the lesson with them, he is ready for larger things. Orders should be given pleasantly and as a matter of course, conveying neither by timidity nor by excessive severity any suggestion that there is a doubt of their being carried out. Care must be taken to see that orders are consistent, and that they are followed up. It is demoralizing to

issue orders and regulations which are not followed up and enforced, or to change the regulations frequently. Where discipline is necessary, it should be promptly and impersonally administered without animus or anger.

All of these details of discipline are important in giving the men confidence in the capacity of their leaders, in their fairness, and in keeping personal issues out of the day's work, and concentrating the attention of all on the work itself.

THE SPRINGS OF ACTION

The great leaders of men and the great writers, Lincoln, Napoleon, Shakespeare, Kipling, Conrad, have had an instinctive insight into the human heart. So also lesser leaders, practical politicians, business men, military commanders, have developed in their activities a practical knowledge of the means by which men can be moved to action. Psychology for some time had little to contribute in this field, but the work of men like William James, McDougall, Freud, is opening up vistas of understanding which will be of great use to the executive in his task of leadership.

The new psychology, as Tansley calls it, tells us that men are moved to action by impulses, emotions, and instincts that lie deeper than the levels of conscious thought. A man sees a bit of fishing tackle, a book, a golf club, or a shiny new pocket-knife in the window and wants it. He says to himself: "No; I can't afford to buy it." But all day the thought of the desired object lies half-hidden in his mind, coming to the surface in moments of reverie. When he goes past the window again, the force of accumulated desire may have become great enough to force action, and this may take place in either of two ways. The commoner is that the man "rationalizes" his impulse. He decides that the gun or the golf club is such a bargain, or so exceptional a find, or so necessary in forming healthy, out-of-doors habits, that it is really a good investment after all. Or he simply walks

into the store without conscious intention and, before he has time to think, buys the desired object, walking out with it sheepishly wondering how he'll explain the purchase to his wife or his friends.

Action springs from desire, not from intellect, and intellect controls action only as it substitutes one desire for another. What we know as strength of will is really control of the attention which enables one to focus the desires steadily on distant objects at the expense of near ones. Thus the man may have resisted the temptation to spend his money. If he did so, it was probably by steadily thinking how much more, after all, he really wanted the money set aside for a rainy day, than for a new golf club.

THE INSTINCTS

McDougall¹ classifies the instincts which move men to action under the following headings:

- The instinct of escape or self-preservation
- Combat or aggression, pugnacity
- Repulsion, repugnance
- Parental (protective)
- Appeal (in distress or helplessness)
- Pairing (reproduction or sexual)
- Curiosity (inquiry, discovery, investigation)
- Submission (self-abasement)
- Assertion (self-display)
- Social or gregarious instinct
- Food-seeking (hunting)
- Acquisition
- Construction
- Laughter

These may be grouped under three headings. The first group consists of those impulses concerned directly with preservation of self, such as self-preservation, combat, acquisition, and construction. A second group includes those concerned with the preservation of an extension of self,

¹McDougall, William, *Outline of Psychology*, Scribners, p. 324.

namely, the family, and includes the parental and mating instincts. A third group includes those instincts affecting the relation of the individual to others of his kind, of which the gregarious instinct is the principal example. These are not hard and fast distinctions, for combat or submission have both an individual and a social aspect, for example.

A man is moved to action, then, by something which arouses these impulses and awakens specific desires. Life itself is but an expression of the urge of activity, for the outflow of the vital force in such channels as the pleasure in construction, the desire for the approval of others and to appear wise, good, powerful to others, the desire for possession, for a family, curiosity, combativeness. These instincts in turn owe their origin and their strength to the fact that they were at one time, or still are, essential to the survival of the individual and the race.

Action results from the interplay of all these impulses. Anger and pugnacity impel a man to strike, acquisitiveness to take what is not his, but desire for approbation tells him that society, or conscience, the embodiment of the social code, does not approve of such actions. Often there is conflict between the impulses which thus find themselves in opposition, sometimes a prolonged and irreconcilable conflict leads to a sort of splitting of the personality, a dual life in which the individual in his home is a model of kindness and convention, while in his business he is the embodiment of cunning and rapacity.

No man knows fully all the depths and heights, the unexplored mysteries of any human mind. Often he knows least of all about his own mind. But if the conduct of others and one's own feelings and actions are examined with an open mind, one comes to learn something of the springs of action which are at the command of the leader. Here, as in all other fields, the distinction is sharp between learning and skill. The psychologist who can analyze uncannily the motives underlying human action may be utterly helpless when it comes to influencing these motives.

UNDERSTANDING MEN

One of the first requisites to understanding other men is the ability to listen. There are men, we all know them, who are too impatient for a chance to talk themselves, too concerned with slights to their own self-importance, too anxious for the attainment of their own end, to be able even for a minute to really open their understanding to the other man's point of view. Of such are the managers who wonder why some benefaction, which is really but a grandiloquent gesture of self-esteem, is not more appreciated by the workmen it is supposed to benefit. Of such is the self-important executive who listens impatiently to suggestions and then says, "No; *this* is the way to do it." The fable of the idiot boy who found the stray donkey when all else failed, by imagining what he would have done had he been the donkey, gives a good clue to understanding people.

THE TECHNIQUE OF LEADERSHIP

Then comes the technique of leadership — the body of rules which represent condensed experience and the skill in applying them. The salesman learns by experience under direction how to capture the prospect's attention, how to hold his interest by addressing the argument to the arousing of one of these desire motives, when to stop talking, how to close and secure action. The executive learns how far to carry competition, a mild exercise of the combative instinct, without carrying it to the point of anger or hard feeling.

An interesting illustration of the way in which use is made of the instincts in practical discipline is furnished by a method of discipline which the writer has observed Carl Barth use most effectively. Doubtless with some of my readers it may revive memories of the days when father told us how much more it hurt him than it did us. Mr. Barth, who was responsible for installing the Taylor system in certain departments of the Pullman Car Works, would ap-

proach a foreman whose planning board was not kept up to date or whose section of the floor was disorderly, and proceed methodically to tell the man his shortcomings. "Did he (Barth) have to come all the way from Philadelphia to show a great big fellow like you how to do a simple little thing like that?" "What would you think if your wife kept a kitchen that looked like that?" And the man, feeling all his self-esteem being mercilessly trampled upon, yet without any compensating defense, would gradually become nearly speechless with suppressed mixed emotions. Then would come a change in the talk, and Barth would tell him that "he knew he was a good fellow, and meant to do the right thing, and he (Barth) was not speaking thus because he was angry but because he wanted him to learn the right way." And in the relief of having his self-esteem again restored, of the forgiveness of what he knew to be a fault, the accumulated emotional tension often found expression in a rush of friendly gratitude which might become the basis of a lasting loyalty.

So must the manager learn the use of praise—how to use it without cheapening it or making it appear an effort to curry favor, or an insincerity.

The leader has much in his favor, for his position as chief automatically gives him the support of long customary obedience. Every man in the organization likes to think of himself as the chief, likes to tell what he would do if he were boss, and perhaps to criticize the leader. But this challenge of leadership, once it has been met and the place conceded, gives way to the stronger pleasure in submission, in letting some one else carry the responsibility and make the decisions, in being a part of a dynamic and successful enterprise. If the leader has the knack of letting his men share the glory, feel themselves a part of an organization they are proud to identify themselves with, he has the key to enthusiasm and loyalty. If he can go further, show his interest in taking care of his men, he binds his men to him with fetters that cannot easily be broken.

Leadership is not, however, always conceded without a struggle. Kipling tells the story of a Bengali, university educated and veneered with the British attitude of command, who attempted to govern a wild, fierce hill tribe of Pathans. He tells of the meeting, of the words of command, of the meeting of eyes with scornful eyes, how the eyes of the weaker man, bred by his mother in fear of the people he was to rule, dropped and dropped, and the smooth assurance of authority vanished in sudden panic. And he tells how the hillsmen detected and scorned his weakness, and rose in a revolt that lasted till steadier men took the reins.

PERSONALITY OF THE LEADER

Back of the cloak of authority, men look at the man himself. Leaders differ much. There is the dashing Phil Sheridan, the unimpressive but determined Grant. One man uses praise, another's praise is silence. But in all leaders there is an assurance and competence that men respect. It is evidenced in the proof they give of knowing their business, in dignity without stiffness, in a measure of reserve and restraint. There are insincere leaders who are successful; yet men feel, without always being able to explain, evidences of insincerity, and such a man is apt slowly to lose his hold as he reveals himself by a slip here, an inconsistency there. In fact, many great leaders, like Joan of Arc, owe their leadership not to cultivated powers of personality, but to a contagious and genuine enthusiasm which shines through them and is great enough to similarly inspire their followers with the spirit of the crusade.

SUGGESTION

A thought or a suggestion which reaches and awakens a desire goes on to action unless it is checked by an awakened counter impulse. This was illustrated in the case of the man who saw something he wanted in the store window. In the

chapter on "Advertising," it was shown how such suggestions were planted in the individual's mind, to bear fruit at some later time in action. Suggestion is a very great power, and it is used by the executive in many ways. He furnishes examples for imitation — there was much sound sense in the old rule that the boss was the first down to work and the last to leave. In his bearing, his written statements and orders, in the letters he writes to his salesmen and department heads, in the rules of neatness and exactness and conformity to regulations he enforces, he is constantly working not only for the direct result, but for the building up of an indirect impression, on the worker, of the kind of policy and the quality of work the company stands for. Thus does an organization receive the impress of its leader.

Suggestion is more powerful when the individual is a member of a group than when he is alone. The defenses of suspicion, of individual responsibility are a little lowered and the influence of the direct suggestion is reenforced by the looks, the gestures, of many others. The way in which street fakirs start a sale by concentrating on some one picked out as a "yes man" or suggestible individual is a good illustration of group suggestibility. Once one has bought, there is a stream of others who crowd forward to do the same thing.

This suggestibility of the crowd has both its uses and its dangers. It is not a good way to commit a man to a pledge he would not take alone, for when the glow of the group enthusiasm is gone, he is apt to regret his pledge. Suggestibility makes the group unstable, for any one can come along and capture it.

THE GROUP AS A UNIT

People are drawn by gregariousness into fairly definite groups. Usually the individual seeks association with those very closely of his own social station and habits. The group jealously excludes outsiders, using pass-words, initiations, badges, to mark its members. It is mutually protective

against the outside world but jealously exacts conformity to the group will, on the part of its members.

A man is usually a member of many such groups, and yields allegiance to his lodge, his country, his social set, his union, his church, and often to many other groups. Sometimes these groups come into conflict, and there, with some feelings of conflict usually, the man will be forced to "leave the one and cleave unto the other."

The executive's problem is to build up a group-feeling which identifies the company as an object of loyalty. Such a feeling exists in one large organization whose men travel the whole country. Wherever a man sees in a hotel lobby another man with the familiar little button worn by the company representatives, there at once is a basis of fraternity and good fellowship established. They are members of the same family.

It is seldom advisable to make such loyalties force the man to run counter to his class loyalties. For example, union men, loyal to a company which treats them right, may be called on strike on some general issue affecting the whole industry. Often the best way is a friendly agreement which permits at least a nominal compliance by the men, with their duty to their union.

MANAGEMENT AS A PROFESSION

Thus the executive, in addition to his technical knowledge of markets and finance and production, must be a constant student of human nature. There is no subject more interesting, no field, perhaps, in which greater advances may be looked for in the next generation.

With the stabilization of the great productive units which today serve in increasing numbers as permanent institutions, there is room for a type of man who combines with the entrepreneur's standpoint of profit something of the responsibility of the professional man, for rendering a social service as well as securing a private gain.

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